IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

RETRACTABLE TECHNOLOGIES INC. * Civil Docket No. 2:07-CV-250
VS. * Marshall, Texas
* November 2, 2009
BECTON DICKINSON & COMPANY * 1:30 P.M.

TRANSCRIPT OF JURY TRIAL
BEFORE THE HONORABLE DAVID FOLSOM
UNITED STATES DISTRICT JUDGE

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P R O C E E D I N G S

COURT SECURITY OFFICER: All rise.

(Jury in.)

THE COURT: Please be seated.

You may continue your direct examination.

MR. HARDIN: Thank you, Your Honor.

Q. (By Mr. Hardin) Mr. Sheehan, when we took our lunch break, we had just finished going over how the 3ml Integra product fits the descriptions of Claims 10 and 25 of the '077 patent.

A. That's correct.

Q. Okay. We've prepared a summary slide on that to summarize your opinions on the '077 patent and how it -- how its definitions include within its scope all the features of the -- necessary features that are required to infringe it that are found in the 3mL Integra.

A. Yes, sir.

Q. Okay. So on the '077 patent, what's this first drawing over here to the left?

A. Okay. This is actually a showing of two things. You can see tucking occurring, and you can see venting. I believe the vents are in that as well. Yes.

Q. Is this -- is this a figure from the patents that the jurors can find?

A. Oh, yes. This is Figure 12.

In all three patents, the figures have the same numbers. They are the same figures. So you can look at any of the patents. This is from the '077, but Figure 12 will be the same.

And there you can see the drawing by Mr. Shaw showing the tucking and also the venting flowing up through -- it looks like the '168 patent is what it is. Yeah.

Q. So behind Tab 2 in the juror notebooks, they can turn to Figure 12 and they'll see this drawing?

A. That is correct.

Q. And, again, the drawing relates to the claim language how again, please?

A. If you remember, in Claim 10 -- Claim 10 is about a tuck and vent -- here you see a series of vents. These go all the way around. There's a number of them. Four is shown, essentially, implied in the drawing. And that's where the air vents out safely from the back end. And then by the same token, you see right here (indicates) that the tip of the plunger, the finger press is down inside in close association or locked inside the collar. And so you can't easily grasp it.

Q. All right.

MR. HARDIN: Can we see the next portion of this slide?

Q. (By Mr. Hardin) And this is a picture of the 3mL Integra product?

A. That is correct. This is the accused device in the case of the '077 patent, Claims 10 and 25, is the BD Integra 3mL syringe.

Q. The next portion of this slide. This is the little animation that you showed where --

A. Right. This is the same one just a little harder to see, but -- but you can see the venting occurring. And also, here is that little snippet from a BD drawing, actually from Becton Dickinson, showing the exact same feature that's shown here in the patent.

Q. And so does this device infringe Claims 10 and 25 of the '077 patent, this device being the 3mL Integra?

A. Yes. The 3mL Integra literally infringes Claims 10 and 25 of the '077 patent.

Q. All right. Let's move forward, then, on to our next patent and the claims that we're asserting, which we're going to take up the '224 patent.

MS. PIROZZOLO: Your Honor, may we approach?

THE COURT: Yes.

(Bench conference.)

MS. PIROZZOLO: In Mr. Sheehan's expert report submitted in this case, he never rendered an opinion on beliefs of frictional holding force in the 3ml syringe. And I want to get an instruction that he should not be allowed to testify about release of any frictional holding force in the syringe.

THE COURT: Mr. Hardin, obviously, I don't know whether you did or didn't.

MR. HARDIN: I don't --

MS. PIROZZOLO: And I have the paragraph tabbed, and I can even show you he did say something -- he did mention the word friction with regard to the 1ml, but he never mentioned the word frictional release with regard to the 3ml.

That's the 1ml. That's the 3ml (indicates).

MR. HARDIN: Here's what he said, Your Honor: The inner plunger rod moves forward further allowing the cutter to cut or break through the plunger stopper and separate the continuous retaining member from the needle-holding portion of the retraction mechanism by cutting or breaking the thin portion, separating cutting.

The word release isn't there, Your Honor, but I would submit that --

THE COURT: In his deposition, was this covered by way of deposition?

MS. PIROZZOLO: No.

MR. HARDIN: Well, the point -- the point is that the method -- I mean, this is really -- the fact that the word release doesn't -- doesn't -- doesn't appear here, Your Honor, it is a description of precisely how that device cuts and separates and releases the device.

THE COURT: I'll allow you to refer to the -- do you want to make a comment?

MS. PIROZZOLO: I do. I do, Your Honor. Judge, I think this is highly prejudicial to us given your claim construction modification, because you said there has to be release. And that was something that agrees with, Your Honor.

MR. HARDIN: That was after this report was written.

MS. PIROZZOLO: But there was no amendment. There was no addition to the report, and it should not happen here for the first time.

I want to show you what he said about the 1ml syringe just to show you that when release of frictional holding force occurred, it was quite explicitly mentioned with regard to the 1ml syringe.

MR. HARDIN: Well, of course, the word --

MS. PIROZZOLO: That does not appear in the 3ml.

MR. HARDIN: Your Honor, the word release occurs here. The word separate occurs in the other report.

I mean, the witness -- again, Your Honor put this restriction into the claim after these reports were already there. So it fit the definitions at the time.

Your Honor then made that slight addition. But the reason I readily agreed to it, not that Your Honor will remember, I said that's fine, was because I clearly believe that separating and the releasing were the same thing in this case, the release or separation.

MS. PIROZZOLO: Your Honor, it's cutting -- cutting the needle holder does not release the friction between the barrel and wall.

THE COURT: Let's go back to the language concerning this claim.

MR. HARDIN: The inner plunger rod moves forward allowing the cutter to cut or break through the plunger stopper and separate the continuous retaining member from holding portion of the retractor by cutting or breaking the pen-bridging portion extending between them.

That's the point, it breaks the bridge and releases.

I'm sorry. Your Honor, the fact issue in this case is whether that cutting or breaking releases --

THE COURT: I'm going to let him testify to the language of that report.

MR. HARDIN: Okay.

THE COURT: He can give an opinion whether that satisfies the claim.

MR. HARDIN: Okay.

MS. PIROZZOLO: Just to be clear, that means he cannot mention the word friction with regard to the 3ml syringe?

MR. HARDIN: Your Honor, that's what holds it. That's not at all --

THE COURT: I'm going to allow him to then ask does he feel that satisfies the claim language.

MS. PIROZZOLO: But he can't use the word friction?

MR. HARDIN: Yeah. That's my -- that's not --

THE COURT: I'm going to allow him to use the word friction. I think the report gives fair notice of this.

MS. PIROZZOLO: We disagree, Your Honor.

THE COURT: Okay. I understand. Note your objection.

MR. HARDIN: Thank you, Your Honor.

(Bench conference concluded.)

Q. (By Mr. Hardin) All right. Mr. Sheehan, we are going to move to the '224 patent.

And with respect to this patent, does this patent -- does this patent have claims that are asserted against both Integra products, both the 1ml and the 3ml?
A. That's correct.
Q. Okay. So first, we're going to go to Claim 43, which would be at the end of these numbered paragraphs at the end of the patent.
A. Column 22?
Q. And it goes all the way over into Column 23. Am I correct?
A. Starts at Line 35 in Column 43 on the right side of the page.
Q. Okay. Now, in order to assist the jury in doing what they're going to have to do at the end of this case, which is to decide whether the 3ml -- we're going to go through this -- first of all, sort of a warning in advance -- we're going to go through this claim twice, aren't we?
A. Yes, we are, because the 3ml and the 1ml both infringe.
Q. Okay. And our burden is to demonstrate to the jury that both in the structures of the 3ml and the 1ml Integra products are different?
A. Yes, there are differences between them.
Q. And your opinion is you studied both those

structures, and both those structures -- both those products infringe this one claim?

A. That's correct.

Q. So that requires us to go through the claim twice, once for the 3ml and once for the 1ml?

A. Yes. I'm afraid we have to go through it twice.

Q. Okay. All right. So we're going to begin with the comparison of the 3ml product to this Claim 43.

A. Yes, sir.

Q. Okay. And you've prepared a chart like we did for the other patent.

A. Yes. And charts and diagrams and stills and documents.

Q. Okay. Very good.

So what's the first -- what's the lead-in or the preamble in this claim?

A. Just -- inadvertently, that was good. This is actually two pages' worth of limitations. So be prepared for two pages. They just showed the second page.

There it is. That's the second page.

So this will be a little longer.

But going to the first one, the first limitation really is not a limitation; it's the preamble. And it says: A syringe assembly having a retractable needle that is rendered unusable after a single injection, da-da-da, comprising. That's the preamble; it's not a limitation. Just tells you what it's about.

And, of course, that's met.

So we can go to B, which is the first true limitation, and that is a hollow syringe body comprising a barrel having a front-end and a back-end portion. Straightforward.

We've seen this picture before. Here is the 3mL BD Integra; here's the back-end portion; here's the front-end portion (indicates).

This limitation is satisfied. Gets a checkmark.

C: The back-end portion, the one we just mentioned, provides at least one radially extending member being a finger grip. Well, there they are. There are the finger grips right here at the back-end portion. Straightforward. Same sort of picture. Checkmark there.

D: A retraction mechanism disposed in the front-end portion. Now, here we're going to see the retraction -- oh, by the way, dispose is one of those patent words. It just means located in.

It's disposed in a vestibule, or it's disposed in the front end or whatever. It just means it's located there.

So the retraction mechanism is disposed in the front-end portion. This is that green part. Remember the rest of the part, the other part of the barrel, goes back off to the left.

And now when the animation is run, you will see the retraction mechanism be disposed in the front-end portion. There's the screen going in. There's the needle holder. There's the retainer member, the non-retractable part, bridging portion. And then the needle is put in, of course, from this side, because that's the only way you can do it from the manufacturing standpoint.

Q. So -- so -- so you know all about this, and you've done it several times?

A. Yes.

Q. But that was a lot of information really quickly.

A. Sorry.

Q. So in this 3mL Integra, does this slide -- was this slide created from the drawings of the BD product, the actual little plastic pieces?

A. These? This animation was made using the drawings, the engineering drawings, supplied to -- to RTI by Becton Dickinson in connection with this lawsuit. So these are accurate representations of the actual BD 3mL Integra product.

Q. And -- and what we're seeing here again, we see how many pieces, just so -- I think they are color-coded, but to be sure, I want to understand what we're seeing.

A. Okay. The green, which is the front-end portion, it's part of the barrel. And the rest of the barrel is back out here (indicates).

The red is the elongated needle holder, and here's the fluid path going through it. And finally, this silvery part, well, that's the needle. And, of course, the pointy parts are over here. And this is glued in, as is tradition, into the elongated needle holder.

Q. But you used the word glue. I want to make sure we understand, because there's going to be a lot of questions about where there's -- there could be a question about where there's glue, where there's friction, or clamping.

So where is the only glue seen in this picture?

A. Oh, the only glue you see is in this dark area here. And, unfortunately, it goes underneath the spring. And you can kind of see where the needle comes to an end. So the glue fills up that area there. You can see the glue at the tip of any one of these syringes. It's kind of small, but that's where the glue is.

Q. So in the sense of how the needle -- we're using the term needle holder a lot, okay? So I don't want anybody to have any confusion.

The way the needle is held in that little piece of plastic, the red plastic, is by glue.

A. Correct. Or technically, we call it adhesive, but, generally speaking, it's glued in.

Q. And in the terms of the patent, that elongated red piece of plastic, that's what you're terming a needle holder?

A. Correct, all the way out to here. This whole thing is the elongated needle holder. This is the little head end on it. Steps down so the spring has something to push on. And then the spring pushes off this end of the front end of the barrel, and then will eventually push that back.

So the bottom line, this is the retraction mechanism. And where is it disposed? It's disposed in the green part, which is the front-end portion.

Q. Of the --
A. Integra 3mL.
Q. Now, next limitation after that -- so E would get a checkmark?
A. Actually, D got a checkmark.
Q. I see.
A. And actually, I kind of jumped ahead a little bit, because Limitation E describes some of the details of -- of the retraction mechanism.
Q. Okay. So D just required there be a retraction mechanism, and now we're getting all the adjectives. We're finding out if it's glue or finding out more about the structure.
A. Correct. And you had a sneak preview of it. And so what you see here is there's that red part here again, but this is a Becton Dickinson drawing showing the dimensions and all this, an engineering drawing, and we just colored it in.
So this is the elongated needle-holding portion that's required, a head portion. You can see the head portion back at the end here. And, of course, there's a fluid path in here that the needle gets stuck into.
So anything at the tip of the needle, which is sort of off the screen, would come all the way back into

the inside of this syringe.

And I believe that covers every limitation you need. Yep. So that can get a green check.

Q. Okay.

A. F, a little more detail about it, it says: The head portion further comprising an inner head. And now this is the head portion, and now this here (indicates) is the inner head.

And -- oh, yeah, here it is pointing to it. A continuous retainer member surrounding, see this and this (indicates)? That's a continuous retainer member; that's the part you'll learn does not retract, surrounding the inner head, and a bridging portion disposed between -- disposed, same thing, located -- between the continuous retainer member and the inner head.

Now you see this little thing right there, that's a little bridging portion, and that bridges -- these are actually gaps here. This -- this is a cross-section of something that's circular.

And -- there you go. You can see the gaps here. And this goes all the way around. This circular part is a cross-section. You're looking at half of it. And so it has all of these things. And, of course, it has that fluid passageway again.

And so each and every one of these is met, although I think we -- it's a good time to discuss continuous retainer member at some point within the limitation.

Q. Okay. Okay. So, again, that last drawing, we're seeing -- this looks like a 3 -- that drawing is an engineering drawing. And by definition, since it's flat, engineers draw it as if we cut a knife right down the center of it.

A. Right. If you -- if you take an apple and you cut it in half and you just look at the little white part of the apple, you're looking at a cross-section of it.

Q. Okay.

A. And that curves away on the paper and comes back out on the bottom.

Q. So this -- so just to be sure, so this area right here is really a round flange that goes around the entire --

A. Correct. It's a flange, just like on an automotive part.

Q. And this right here is actually what you call a bridging portion is actually a thin web or structure that goes all the way around?

A. Correct. And connects the retainer member --

continuous retainer member to the inner head.

Q. Okay. All right. Which is this piece right here, which --

A. That's correct?

Q. Which itself is, again, round?

A. Which itself is, again, round, yes.

Q. Which, then, in the needle we saw -- when you were talking about the glue, the needle is slipped in here and this is where the glue would be.

A. Yeah, the glue is placed in there to hold the needle in the needle holder.

The three-dimensional aspect of this will become evident again when we look at the animation.

Q. Okay. So let's do that, look at the animation.

A. Now, before we start the animation, here's that red part again. And now you can see that this gap goes all the way around. This flange goes all the way around and comes out here. And you can see the structure is -- it's cylindrical.

That's the elongated needle holder. There's your spring. There's the front end of the barrel. This is the back end of the barrel (indicates).

And --

Q. Excuse me, but we're still looking like we've sliced the apple in half, correct?

A. Yeah. We're still looking like we slice the apple in half, except we didn't slice this part in half (indicates).

Q. Okay.

A. We didn't slice the spring in half, and we didn't slice this part in half. This -- this -- this appears as a solid round cylinder. So it's selectively sliced. Technical people do this all the time in order to show certain features.

Sometimes you look at your -- how your car works and you look and you'll see a diagram that kind of looks like this, and you still can't figure it out. But that's the attempt here.

Q. Now, let's back up a moment before we leave. How is this being held?

A. The way -- and this has to do with the term continuous retainer member. Remember, the Judge construed certain terms.

Well, continuous retainer member is -- do you have the tab?

Q. Yes. Judge Folsom's definition of what a continuous retainer member is located at Tab 4 of the juror notebook.

A. Okay. So --

Q. And it's --

A. Right. I have it.

If you go to Tab 4 -- we've talked about this once before; it's the eighth one down. It's kind of a larger area: Retainer member.

And it says: An unretractable part of the retraction mechanism. And that's -- all right. That's this part here (indicates), because that's not going to retract. That flange that Mr. Hardin mentioned, referred to, is a very good term. That flange is not going to retract.

That uses some clamping or frictional force to keep the needle in the projecting position.

Well, here you see the needle. It's in the projecting position. And what's happening here is this green object is threaded into the blue object, threads down and clamps the red part.

This -- this red part normally sets a little bit away from the green part, when it's outside of this assembly. There's a little bit of spring space in there. It kind of bling-blings a little bit.

But once you thread this down, it clamps tight now. It clamps the green clamps against the blue, capturing the flange of the -- of what's called the inner hub by BD. And so -- so right there, you have clamping occurring.

Now, what will hold that clamping in place is the fact that there are threads here. Now, these are very interesting threads. These are not your typical threads found on the end of syringes used for Luer-Loc connections. That's sort of a standard connection generally not used with a safety syringes.

These threads are rather chunky. They are kind of heavy. They are not pointy like a lug nut, a lug bolt, or an erector set thread. They're kind of clunky.

And if you look closely at the thread surfaces on the actual Integra 3mL products, those surfaces of the threads have been roughened up. They have a rougher finish than the rest of the barrel, and that can only be for one purpose, which is to increase the amount of friction present in the threading.

MR. HARDIN: Your Honor, to illustrate this further, could I ask that the witness be allowed to use the ELMO and show what he's talking about on the ELMO?

THE COURT: Yes.

MR. HARDIN: Thank you, Your Honor.

THE WITNESS: Let's see. How do we do the zoom part?

A. Okay. As -- what you can see here -- oh, yeah. Yes, this is coming in backwards, isn't it? Okay. This is the upside down. I have the driver on it.

Okay. Pointing to here, you can see the barrel is very clear. You see how shiny it is. Well, that's all nice and smooth and polished. But if you look in the thread area here, what you'll see is it's kind of -- has a patina, has a frost to it.

And perhaps if I turn it up this way and then I will bring this up -- it's kind of hard to see, but the inside is frosty on the threads as are the threads.

Let me go back down to here.

Now, this is the other -- this is the other part of the barrel and the retraction mechanism. And on the blue part that's shaking there, that's all rough as opposed to -- look at -- look at the end. Look -- look up at the top end here, and you see how -- you can see that's -- woe. What happened?

We lost our light or the lamp went out.

COURTROOM DEPUTY: I think you hit it with your arm right there.

MS. PIROZZOLO: Your Honor, may we approach?

THE COURT: That's fine.

(Bench conference.)

MS. PIROZZOLO: I don't know where this is going, but there's nothing about rough or shiny in the expert report.

MR. HARDIN: Well, it's friction and clamping, Your Honor, but it's the roughness that -- he says that it's held back for clamping.

MS. PIROZZOLO: That's not in his report. It wasn't in his deposition. It's completely --

THE COURT: Well, if this is outside his report, I'm going to sustain the objection.

MR. HARDIN: Okay. Well, he says it's held by -- the threads are held by friction and clamping. This is an explanation.

MS. PIROZZOLO: He didn't say that in his report. He did say something in his definition, but nothing about this rough, smooth.

THE COURT: Very well. I'll sustain it.

(Bench conference concluded.)

Q. (By Mr. Hardin) Now, moving past the threads --

MR. HARDIN: Can I have the screen back? Thank you so much.

Q. (By Mr. Hardin) Moving past the threads, does the claim require -- does the claim require exclusively the use of friction or clamping to keep the needle in the projected position?

A. No, it does not.

Q. And does that come from -- again, we were at Tab 4, and we were looking at Judge Folsom's definition of retainer member.

Does that come from that definition?

A. Correct. On Tab 4, Page 1, the eighth one down, retainer member, that definition that the Court gave, says that it uses some clamping or frictional force to keep the needle in the projecting position.

Q. Okay. Then you talked about a bridging portion, and this Section F talks about a bridging portion.

A. Right. And that's the bridging portion right there (indicates), that thin little part we saw in this figure down below this one, that goes all the way around, and it's very thin.

Q. Okay.

A. But it's ---it's not so thin that fluid flows through it.

Q. Okay. And that's used to form a seal between the fluid passageway and the barrel -- barrel prior to retraction.

So what's that -- what's -- sealing what from what?

A. Oh, what it's doing is it's sealing the chamber of the barrel, which happens to be occupied right now by the plunger, and -- and downstream -- or anything else -- anything outside of it. Not downstream -- sorry -- and any of the other areas where you don't want fluid to be. So it's a seal.

Q. Okay. All right. So have we -- have we -- in your opinion, have we covered all of the requirements of this F?

A. Yes.

Q. Okay. Let's move to the next one. The head portion further comprising an inner head, a continuous retainer member surrounding the inner head, and a bridging portion -- oh, I'm sorry; that's the same one.

A. Well, this is the same one, but what this illustrates, this is Figure 8, which is found in all three of the patents, the same figure, which shows essentially a disclosure by Mr. Shaw of this exact description.

So -- so this is sort of the support in the specification for this limitation that -- that was just found, I showed, in the Integra 3mL.

And here in Figure 8, you see retainer member; you see the inner elongated needle-holding portion; you see the inner head; you see the bridging portion; you see the spring.

It's -- it's -- it's essentially the -- the same -- the same kind of animal. And that's why that figure was there.

Q. Okay. And when the plunger activates this, what -- what happens? What -- what is separated from what?

A. In -- in -- in the Figure 8 embodiment?

Q. Yes.

A. In the Figure 8 embodiment, what happens is this part here is the non-retractable retainer member. This part doesn't go back.

What gets separated is the bridging portion here, and then when that's separated from this, this is now released from being held by this and -- and the friction over here, and the spring fires this up -- up in -- into the plunger, into the retraction position.

Q. And does the cutter do the same thing in the BD product?

A. Yes, sir.

Q. Okay. That's the BD 3ml syringe?

A. Correct.

Q. Okay. Can we move on to the next limitation in this claim?

A. This is simply that there's a compressed retraction spring, but it must surround at least part of the elongated needle-holder portion and bias the inner head towards the back end.

And here we go. Here's the spring; you've already seen it. It's biasing the -- it surrounds at least part of the elongated needle holder. In fact, it surrounds almost all of it. It's just not this part. And it biases the inner head. That's this -- it's biased on -- it wants to send it that way.

As soon as these things are cut or broken or fractured, this whole thing is going to the left to be sucked into the plunger, safely inside the syringe.

Q. Okay. And the next limitation?

A. The last known limitation on the first page is that a retractable needle extends from the front portion through an opening. And this is straightforward. We've already talked about it.

There's the needle extending from it. You can't see the rest of it. The pointy part is out here, but that limitation is met as well.

Q. Okay.

A. Okay. Page 2, now it stays the retractable needle being held in fixed relation -- in other words, the needle can't move -- with the elongated needle holding portion and be in fluid communication.

Well, here it is; it's glued; it's fixed. And at the end of this needle, it opens up and goes right into here, and then heads off into the -- into the chamber. So --

Q. So this limitation is also present in the 3ml syringe?

A. Yes. Very straightforward.

Q. Okay.

A. J: This is -- you've seen this before. This is the plunger reciprocally disposed, meaning that it can go back and forth. That's straightforward. So that's met.

And we go to K, and this simply states that the plunger is receivable into the barrel through the back end. Well, this plunger is loaded this way (indicates). That's how -- that's how -- that's how you put it together. And so there's -- no discussion about that.

There's an outer wall, and there's a plunger seal. That's that black rubber thing at the front end. You remember these colors are just for color-coding purposes. But that's a black rubber thing at the end that has to not move relative to the -- to the plunger. And there it is. The plunger is sealed, sealed engagement between the plunger and the barrel. So the seal is against the barrel wall that prevents fluid leakage between the plunger and the barrel.

So inside, of course, is a retraction cavity, but I think that's in the next limitation.

Q. Okay.

A. Okay. So that's met.

Maybe I missed it.

L: The plunger seal element being restrained -- oh, I prespoke about this.

The plunger seal element being restrained from sliding longitudinally along the outer wall of the plunger, and that's the black seal right here is not allowed to move relative to the -- to the plunger itself. It must remain restrained. Fixed relationship, can't move, can't slide relative to the plunger. And in the -- in the Integra 3mL product, it's -- it doesn't move. So that -- this -- that limitation is also met by the Integra 3mL.

M: And a back end with an end cap having an outer periphery. Well, here's your end cap. And one of the aspects of an end cap is an outer periphery. See that little surface there? It goes all the way around. This is the Integra 3mL taken directly from drawings, engineering drawings, of BD. So that takes care of M, and it should get a checkmark.

And now we go to N. And this is a barrier disposed in the front-end portion of the body. That tells you where it is. And now it just tells you what it does. It limits forward motion of the needle-holding portion and the retractable needle relative to the body plunger during injection and retraction.

Now, this is -- this one bears paying close attention to -- whoops -- or disappearing. There we go. Now, what you have here is the barrier is the green part. The barrier is what prevents this part, the retainer member, from moving in this direction (indicates) while you press on the plunger or even activate retraction.

So that serves as a barrier to stop forward motion that might create what would appear to the patient as jabbing.

There's a second area of the green part. This little cone right here -- and, once again, that's in section -- that's a cross-section. This is kind of a cylinder. But there's a little tiny gap between the back end of the red part and the front of the green part.

We might see it again in another animation. But that, too, is a barrier. So there are two barriers at work, but they are both part of this green part, which is, in fact, the front portion of the barrel.

Q. Okay.

A. Oh, and now there's the activation. There was the cutter cutting it. You see the non-retractable -- oh, thank you.

You see the non-retractable part here remaining, and the retractable parts went off there. And here's the end of that cone I told you also served as a barrier. This is a barrier for that, and this is a barrier for -- this is a barrier for -- for the portion that got cut away, meaning you couldn't jab it out any further and -- and sort of hurt the patient anymore than you already had to do.

Q. Okay. Thank you.

We have one last final requirement to close our box and finish our claim. What's that?

A. Well, we've actually already seen this. So what happens is the continuous retainer member -- that's this part that we talked about, the flange already -- is releasable from the inner head when the plunger is further depressed.

But now the plunger is depressed to that first position. The medication has essentially been delivered, and now it goes through, cuts it. The thing you just saw happens, and that's exactly what's described in this limitation.

The plunger is further depressed, and the continuous retainer member is released from the inner head. And the inner head has the needle on it, and that goes up inside.

Q. So we had, unfortunately, two pages full of pieces of the claim, all descriptions of the claim.

A. Yes, sir.

Q. Some of which Judge Folsom has given us extra information on behind Tab 4.

A. Yes, sir.

Q. And is it your opinion that the 3mL Becton Dickinson Integra product uses each and every one of those described features in the claim?

A. Yes. The Integra 3mL infringes -- literally infringes Claim 43 of the '224 patent, because it meets each and every limitation literally of -- of Claim 43.

Q. Okay. Now, against this same product, we have some other claims in this same patent, so these are what we call dependent claims.

So they're -- to infringe those, Integra had to have all of those things, correct?

A. That's right.

Q. And to infringe these other claims, it had to

have some additional features?
A. Correct.
Q. And I would direct your attention to Claim 55. So that, again, would be -- for the '224 patent, would be the numbered Paragraph 55 in Column 24, the last page of the patent.
A. Yeah. That's behind Tab 3.
Q. Okay. And what is the additional feature that's required for the -- in order that the 3mL Integra that has all of those other features, what else does it have to have in order to infringe Claim 55 in addition to Claim 43?
A. Okay. Now, Claim 55 is in Column 24 in the last page on the right side about Line 18 or so. And it says -- whoops, sorry about that -- the syringe assembly of Claim 43.
So this means it has to have everything that was in Claim 43, plus this additional narrowing limitation, wherein the retraction cavity is vented behind the plunger seal element.
Well, the plunger seal element, of course, you know is up here (indicates), and we've already shown that in connection with the '077 that the Integra 3mL product is vented.
So here we see that same -- the end of that

animation again.
Q. Okay. And then to this Claim 60, we've also asserted -- RTI is also asserting that Claim 60 from this patent is further infringed by the 3mL Integra.
What additional feature does the 3mL Integra have that makes it infringe Claim 60 in addition to Claim 43?
A. Just looking down at the five claims down on the left page there in Column 24, you see the syringe assembly of 43 wherein the continuous retaining member, which was that red -- red flange part here -- has an outside mating surface making a fluid seal with the barrel.
And that fluid seal is right there. It's where red meets blue. That, of course, goes all the way around, and you can see it here. So that's where that seal is made.
So that limitation is also met.
Q. Okay. And, finally, with respect to this product for this patent, RTI asserts that this Integra 3mL product also infringes Claim 61.
A. Correct. Claim 61, which is the next to the last claim in the patents is the last one that's being asserted, says that the syringe assembly of Claim 43 wherein the body and the elongated needle holder

cooperate as a spring guide during compression of the retraction spring.

Now, before the animation goes, that says that this portion here (indicates) and the red part that comes in -- remember the elongated needle holder -- cooperate as a spring guide. And you'll see how nicely it does that.

If we could begin the animation, you'll see it happen.

Here comes the spring; it's guided there on the outside. Here comes the inside. And that's just kept so nicely there.

And so the 3mL Integra as made by BD, it meets that limitation and also infringes -- literally infringes that Claim 61 of the '224 patent.

Q. Now, is there anything particularly important about the fact that the -- that that -- those two things cooperate and guide the spring as it's compressed?

A. Oh, it's a wonderful -- it's an assembly aid. It's an absolute assembly aid and, also, it's a housekeeping aid.

Springs, unless they're, you know, controlled get all wiggly and stuff. And so this particular added feature is a great way to manage a -- a -- a spring in a product.

Q. Okay. All right. Does that conclude your opinion with respect to that first product, that 3mL Integra product in this patent, '224?

A. Correct. That's all the infringement issues regarding the 3ml, the larger of the two.

Q. Okay. Now, we have to go back. We're going to, unfortunately, go and we'll try to go a little faster, because we've been through the wording of the claim once.

But we're required in order to prove that Becton Dickinson is not just using Claim 43 in its 3ml Integra. It's RTI's assertion that they also use that same claimed invention in their smaller product, their 3 -- their 1ml.

A. Yes, sir.

Q. And have you analyzed that question?

A. I have.

Q. And did you compare the structure of the 1ml to each and every claim limitation in Claim 43?

A. Yes, I compared the structure and the form of the product and the engineering drawings and did exactly the same thing to those two pages' worth of limitations.

Q. Okay. And they make the 3 -- they make the 1ml. The retraction mechanism still has a cutter. It still has a spring, still has a retraction -- it has a

retraction mechanism that includes a retainer member, a bridge, and a needle holder.
Am I correct?
A. That's correct.
Q. Okay. But they are shaped somewhat differently?
A. That is correct.
Q. And so in order to make sure that the jury understands that when they're asked a question whether these two different products infringe the same claim, it's required for us to have you explain with respect to this different structure for the 1ml how its structure fits the definition of each of these claim elements?
A. Yes. That's right.
More than one structure or device or arrangement can infringe these claims. And in this case, both the 3ml and the 1ml infringe Claim 43 and some other of the dependent claims.
Q. Okay. So now we've -- we've sort of been educated once, so we'll -- we'll -- I would like you to focus on your descriptions when the language comes up on the -- on the structure of the 1ml.
A. Certainly.
Q. Do we have the same introductory phrase and it fits the 1ml just like it did the 3ml?

A. That's correct.

Q. And next -- the next limitation is a hollow syringe body comprising a barrel and having a front-end portion.

A. Right. And what we have here from an engineering drawing of BD, here's the 1ml barrel. This happens to be a one-piece barrel, and it zooms out, and now here's the actual -- sort of blinky -- here's the actual barrel dropping down right on top of the drawing, and then we sectioned part of it so you can see inside of it.

So here's the back-end portion, and here's -- here's the front end. So that limitation is met, slightly different from the 3ml but nonetheless meets it.

This is -- we can handle it very quickly.

Here are the two finger grips that are required, essentially, by C, and I don't think there's any dispute there.

We can go on -- yeah, we're looking for a retraction mechanism disposed in the front-end portion.

Now, here it's worth pausing to note that in the 1mL Integra instead of the cutter being in the plunger, the cutter is on the other side. They put the cutter down here in the nose. And so there's a cutter right there.

The springs on the inside of the cutter and the elongated needle holder is inside of that. And this is a BD drawing, and that's showing a retraction mechanism in the front-end portion, which we referred to in the previous slide.

Q. Mr. Sheehan, just stop a minute there, because you pointed out this has a cutter, and the claim doesn't say anything about a cutter.

Does that mean that this device can't infringe?

A. No. No. The fact that it has a cutter is -- is irrelevant. It could have a cutter; it could not have a cutter; it could have some other means.

Earlier, I referred to bells and whistles, which I didn't mean they were insignificant things. I'm just saying if you have these limitations, you infringe whether you use a cutter, whether you use dynamite or whether you use some kind of other means. All of those things contemplated infringement.

Q. So I interrupted you.

A. Sure.

Q. So you were -- this is a retraction mechanism that is disposed in the front-end portion of the 1ml?

A. That is correct. This is the tip of the 1ml.

This is the smaller one. It's really hard to see.

Q. Okay.

A. But there you go.

So you have a checkmark there.

Now, once again, a little more description about that retraction mechanism, and we run the slide. Here's an engineering drawing of the needle-holder part.

Oh, I hasten to point out, this is pointing to the left. The other one was pointing to the right, and that's not to confuse people. That's how the engineering drawings at BD were made.

So just remember, if it points to the right, it was the 3ml. If it points to the left, it's the 1ml.

So here's an elongated needle-holding portion right here. It looks kind of familiar. Here's a head. Here's the fluid path. And then this is met. I believe that's it -- yeah, E.

Now comes F. Now here's a little more detail, you remember, about the -- about the needle adapter part. Sorry. We covered up something pretty quickly.

Okay. Here -- the head further comprising an inner head. Okay. Here's that inner head. There's a general head, and this is the inner head. This looks very much like the 3ml here. There's a gap underneath the bridging portion that's required. Here's the fluid paths. This is where you put the needle in.

But now, importantly, this is a continuous retainer member, and this is where we have to refer to the Court's construction regarding what that means regarding some clamping or friction.

And I don't know whether it's the next slide or eventually, but we will address that.

Q. Okay. Let's move to the next slide.

A. What you see here is the front end of the arrow. Zooming in at the blueprint, if you will, of the front end of the barrel. And you can see -- okay. This -- (reading).

Oh, okay. What we're looking at here is we're looking at dimensions in order to form a fluid seal. I guess -- (reading). Anyway, what's on these dimensions, just what's on these drawings -- I'm sorry -- these are the dimensions of importance on the front end of the barrel.

I'm sorry. Switching from the 3ml to the 1ml, I had to regroup for a second.

This dimension here, 178, is the inside diameter right in here. 175 is the diameter right here. And 178 is the diameter right in the front here.

So these are three diameters (indicates). You don't have to memorize these right now, but these are three important diameters that exist in the front end of the barrel.

We will now take a look at the diameters at the -- in -- in the corresponding location on the elongated needle holder with the retainer, and we see 183, 177, and 180.

And when you put those next to each other, what you notice, and -- and what will happen here shortly is these two drawings will be merged, even though they are not assembled like that. You know the red part is put from the right and the back end of the blue part.

And now, as it darkens up, right here and right here (indicates), meaning all the way around the outside, you have a press fit. Earlier today, I was asked and I think I explained about what a press fit and interference is and where the friction is.

What we have here is exactly that. The way we know that is let's go back -- or let's go forward and take a look at those dimensions that we saw earlier. The blue part represents the needle-holding thing. The retainer member that's being shoved inside the red line. And the red line represents the interior of the barrel. Now, look at the first set of dimensions. You see that this is 183. 183/1000. Doesn't sound like a lot but it's enough. And this is 178. So you see the blue part, the cork is bigger than the bottle by this much. It's sticking out by that much.

When we move over to this other area, we see that 177 is greater than 175. And when we get to the next one you see that 180 is greater than 178.

Now, I prepared a zoom-in of that part where it overlaps.

What this shows here, you see all this area here, this darkened color, well, that's the wall of the barrel.

The blue line represents the retainer member being press-fit in there. All of this area here where this -- what appears to be an overlap, that's how much bigger the blue part is than the red part. This is 5/1000 in diameter bigger; 2/1000 in diameter bigger; 2/1000 in diameter bigger.

That alone would tell one of ordinary skill in the art there's a press fit and there's friction and that's holding the needle in -- in the projecting position.

Just remember, the needle is attached to this blue part and is going out over here to the left. So --

Q. You're talking in thousands.

A. Yes.

Q. That doesn't sound very much; it doesn't sound very much. We have these point zeros; those are thousands of inches?

A. That's a thousandth of an inch.

Q. And so it doesn't look like a lot of overlap, but you're -- you're an expert in the molding field and medical device molding at least.

So is that enough to cause any real amount of friction at that particular location?

A. Oh, absolutely.

Q. And, again, that is just because it's -- my vernacular was it's sort of squashing it down when it's shoved in?

A. Correct. That's what happens. It's like the cork in the bottle. And one design to that in order to create friction --

Q. So that --

A. -- to create a seal.

Q. So that little -- that needle holder at the retainer end, does it have a little bit of give? If it was -- does the barrel and the retainer member both have just a little bit of give?

A. Yes. As I described earlier, when this happens, when you shove the blue part into the red part, the red part's pushing down saying no way. So the blue part kind of squashes a little bit. And then the red part also kind of stretches out a little bit.

And they can't occupy the same space. Everybody knows that. And so what happens is they reach an accommodation, and that accommodation, nonetheless, has -- has -- the forces are still there. You know, the cork is still pushing -- you got the cork into the hole, but something gave. In that case, the cork gave.

THE COURT: Mr. Hardin, is this a convenient breaking point? We have a member of the jury who would like a break. So we're going to take a short 10-minute break or so.

MR. HARDIN: Yes, Your Honor.

COURT SECURITY OFFICER: All rise.

(Recess.)

COURT SECURITY OFFICER: All rise.

(Jury in.)

THE COURT: Please be seated.

All right. You may continue direct examination.

MR. HARDIN: Thank you, Your Honor.

Q. (By Mr. Hardin) Mr. Sheehan, we were looking at your drawing, which has the blue line and the red line, and what I understand is, is that we're -- we're stuffing something bigger into something smaller, and in your opinion, that creates friction.

A. Yeah. It creates a press fit or an interference fit and creates a frictional force.

Q. Okay. And there's some other structures there. The wall is not straight here. The wall has -- in two places -- and this is an accurate depiction, is it not, of the Integra 1mL?

A. Yes. This is taken directly from the engineering drawings myself.

Q. And it has -- it has what I would characterize as a bump here and then a lower bump here (indicating)?

A. Yes, sir.

Q. Did you take those into account in forming your opinion about whether this device operates using clamping and friction?

A. Absolutely, yes, I did.

Q. Okay. How do those affect whether or not the -- the retainer member is being held in place by clamping or friction?

A. Well, let's deal with the back bump first. As you can see, there's a space here (indicating). The back bump doesn't even contact the blue part. So that really doesn't come into play.

And, of course, back here is -- is -- is the barrel, is the plunger, and that is, in fact, sprayed with silicone. And so anything that enters this area becomes highly lubricated.

A lot of people don't know. All syringes are sprayed on the inside with silicone. That's why they slide. If you didn't do it, they wouldn't slide.

So my dad being a Type I diabetic over 55 years put a lot of silicone into himself and still lived to be 88 years old.

Having said that, the silicone back here is to make everything from here back slippery (indicating).

So not only is this bump not even in contact; it's got lubricant on it.

Now, this bump up here has merit (indicating). This -- this -- this bump here is worth considering. This is called the hub locating ring or hub location ring, one of the two. And clearly, the plan here by BD is to use this as kind of a guide as to how to line them up.

Now, because there's a press fit here and because these things -- two different things cannot get by the same force -- place, these things are going to reach an accommodation somewhere in between, and they're going to line up.

Now, the press fit is still there. The

friction is still there. That's all -- that's here; it's here; it's all here; it's all friction (indicating).

But here (indicating), there's a -- what I would term a mechanical contribution that is, in fact, not friction. And that's the result of the bump of this bump right here (indicating) being in the way of this -- well, let me think about this.

This goes -- yeah. It's this bump coming against this bump (indicating). Right. Right.

So -- so the bottom line is, whereas in the 3ml, it's purely clamping, clamping that flange, and there's purely friction in those types of threads; in this situation, it is predominantly friction with a -- with a little bit of mechanical.

Q. Okay. Does that somehow affect your opinion as to whether or not this structure meets Judge Folsom's definition of a retainer member?

A. Oh, not at all. No. Meets it completely.

Q. Now, have you ever heard -- you told the jury about something called a press fit.

A. Yes, sir.

Q. And you believe this to be a press fit.

A. Yes. That is absolutely a press fit.
Now, we're --

Q. Have you ever heard --

A. I'm sorry. We're just looking at one side, remember. This goes all the way around. This is -- this is a circular thing. This is a plug going into a tube.

Q. Have you heard the term snap fit ever?

A. Oh, sure. The term snap fit is commonly used to -- it can be a number of things.

Q. Does a snap fit -- to you, as an engineer, does a snap fit mean there's no friction involved?

A. Oh, not -- no, no. A snap fit -- generally speaking, snap fits -- some snap fits can involve friction. Some snap fits have no friction.

But regardless -- because it's kind of a broad term. Engineers -- engineers that are equally educated and equally experienced will call different things snap fits. There's a range of definitions.

But what is without question is that there's a press fit here, and there's friction, a frictional force.

Q. Okay.

MR. HARDIN: Can I have Exhibit 211, please.

Q. (By Mr. Hardin) Is this a document you reviewed in concluding that Becton Dickinson 1mL syringe infringes Claim 43 of the Shaw patent?

A. Yes. This internal document from Becton Dickinson, from one person to another within Becton Dickinson, simply confirmed the fact that there is an interference fit.

THE WITNESS: And I think if we zoom in there -- oh, there you go.

A. The hub to barrel interference -- that would be the interference fit -- was increased by making the nominal hub seal diameter from 182 to 183.

That 183, that was that number -- that was one of those numbers we saw when we saw all those six numbers. 183 is -- they actually increased it. They made a 182 -- they made it -- they increased the friction and interference to 183.

Q. (By Mr. Hardin) And do you remember why they were doing this?

A. Yes. My recollection is because they were having a leak, having leak problems.

And it turns out that it wasn't quite because of that reason. It turned out that the automatic assembly equipment, I think, was pushing it in too far or something like that.

But this was an attempt to create a greater -- greater seal or more friction.

Q. Okay.
MR. HARDIN: And can we see Exhibit 214.
Q. (By Mr. Hardin) Is this another document, internal BD document, that you considered in drawing your conclusions?
A. Yes. This, once again, was a BD document that simply confirmed my conclusion, and it's a little hard to see -- there it is. It's the next to the last bullet point.
The hub OD -- that means outside diameter, the outside diameter -- was increased to address leakage --
THE WITNESS: Oh, there you go.
A. -- leakage observations that were made during the original design verification testing.
This is something that you have to do -- the FDA makes you do.
This was later determined to be hub position related from the hub assembly machine, not the hub OD tolerance. But, nonetheless, they kept it and this increased OD will cause additional frictional forces to be felt during activation.
Q. So what --
A. So this is -- verifies there are frictional forces.
Q. What is OD?

A. Outside diameter.
Q. So this document is talking about increasing the outside diameter of the inside part.
A. Yes. The outside diameter of the inside part got bigger. That would be the blue part. But now it's -- we'll make it -- we're going to make it push a little bit harder, and that causes additional frictional forces.
Q. Okay. Now, does Mr. Shaw's patent teach doing the same thing to increase frictional forces?
A. Yes. Mr. Shaw's patent is very specific about this.
Q. Okay.
A. In fact, it describes it to a T.
Q. Okay. So this is the '224 patent and the -- which is at -- it's at Tab 3, and this is at Column 3, Lines 45 through 51.
A. Yes. So Column 3 is on -- on the page that had Columns 3 and 4 on it. It's on the right -- the left column. And you find the number in the middle, and you kind of work your way down to about 45.
And on your left is the following paragraph, which will --
THE WITNESS: Yeah, zoom up here. Thank you.

A. The outwardly facing surface on the circular head of the needle-holder is slightly greater in diameter than the circular inward facing surface in the wall at the most constricted portion where the nose begins.

The needle-holder is thus clamped in position by hoop stresses induced in the outer body and held in position by a frictional holding force.

And then later on, the needle-holder is released in response to depression of the plunger to a retraction position.

So this is exactly -- this is described in the patent, and it's exactly what BD described in their own documents that they did.

Q. (By Mr. Hardin) Okay. Now, how is that -- so the frictional forces being released in response to depression of the plunger, correct?

A. That is correct.

Q. And what happens in the BD Integra device?

A. In the BD Integra 1mL --

Q. Yes, sir.

A. -- device?

Q. Yes, sir.

A. What happens is the frictional force is released from the needle-holder such that the needle-holder can retract, and the non-retractable part can remain behind, being non-retractable.

Q. When that needle-holder is back up inside the barrel --

A. Oh, the -- just like in the 3ml, the needle-holder heads right back up inside this syringe up inside -- it's going to eventually be inside this little plunger.

This is hollow. I think we already saw the retraction cavity part, but this is hollow. It's -- they kind of colored it white. You can't quite see inside, but it's hollow.

Q. And is there any friction left on that needle-holder once it's back up inside the barrel?

A. Oh, no. It's free to fly.

Q. Okay. Okay. Let's look at the -- we were stepping through this claim. Let's go back to the claim and look at the next portion of the claim.

A. Okay. That was -- that was a long stop. The next ones are shorter stops.

A compressed retraction spring surrounding at least part of the elongated needle-holder. Well, here we go. Here's the -- here -- once again, the spring essentially surrounds the vast majority of the elongated needle-holder, being the red part.

So that's the spring. You can't see the spring, because it's inside the cutter, which has been moved from this side to that side, but, nonetheless, there's the spring.

Q. Okay. The next limitation. We get a checkmark there, I guess.

A. Thank you. Yes. Oh, thank you. Yes. That's the last one.

Now, the final one on the first page is that the retractable needle extending into the front portion through an opening in the front end of the body. And that's exactly where you put the needle. You put the needle through an opening in the front end of the body.

And once again, just like on the 3ml, it was facing the other direction, you put glue in here, and you seal that up, and now you've got a direct path from the tip of the needle sealed all the way through the needle and out into the chamber here where the medicine is and the -- and the plunger for pushing it.

Q. Okay. Next limitation.

A. Now we're going to Page 2 at the top is I. Let's see, retractable needle being held in fixed relation to the elongated hub. We've seen this limitation before when we discussed the 3ml.

And basically, it's the same sort of thing.

Here's the needle. It's held in fixed relation. In other words, the needle cannot move, and it's in fluid communication.

Straightforward. I don't think we have any dispute here.

Q. All right. Next limitation.

A. It's really straightforward again. This is the fact that the plunger moves back and forth. You saw this on the 3ml when it was coming from the other direction, and now you're going to see it coming from the other direction. And here's the plunger being able to move back and forth.

So that -- that gets the green checkmark there.

Q. Okay.

A. Going to the next one, this is a little bit longer, but, happily, all these little words on the picture are going to make it easier for all of us.

It says the plunger being receivable through the back end. Well, of course, the plunger was put in here through the back end. No argument there.

It has an outer wall. There's the plunger wall. It has a retraction cavity. Remember, I held up -- you couldn't see inside of it, but maybe you could see that little hole there.

And here's the plunger seal in the front end. And that plunger seal is in -- this is in seal engagement with the barrel, so it works like a typical syringe.

So all of these limitations are met by the 1mL Integra syringe.

Q. Okay.

A. Now -- oh, this is that limitation that says, the plunger seal is restrained from moving -- sliding along the -- essentially, the plunger.

Now, it's hard to see here, because this is a section, but there's a black line here, some black here, black here (indicating). That represents -- that represents the rubber part on the tip -- I want to hold it up again -- the black part on the tip of the -- of the plunger (indicating).

And what that means is, this can't move. This has to stay in position relative to the plunger. And of course -- well, I just showed you. This is true about the 1mL Integra.

Q. Okay. Thank you.

It has a back end with a cap having an outer periphery?

A. I hardly have to speak. There it is.

Q. Okay. And finally -- not finally.

A. Once again, this is that barrier limitation which we had only seen this for the first time in this claim.

In this case, the barrier is actually the cutter. Because as you push -- as the plunger comes down and pushes forward, what stops the forward motion is actually the cutter.

And it does it in two places. It does it here at the cutting tip, and it does it here and here (indicating) where it takes a little bit of bend. Hard to see. We might see it better in an animation.

Q. Okay. So that gets a check?

A. That gets a check. Oh, is -- perfect. There's that little bend in the cutter.

And now it says, wherein the continuous retainer member is releasable from the inner head. So the continuous retainer member is this part out here.

If you look very closely, that's that part -- see that little bump in there (indicating)? That's that little bump that we said has to be taken into account. And here it comes again around there (indicating). So this is the retainer member. This is the non-retractable part. This is the retractable part. This is the needle-holder, right? And this is the plunger (indicating).

Now, the plunger -- you see that sort of gray? That's the cross-section of that black part.

Now, this -- the plunger has already been pushed right up to the end. You've delivered the medication that you're going to at that point. And then you continue further depressing it.

And we'll see that happen with the animation. It zooms in, and you watch the plunger here, and the plunger comes, pushes the retainer member forward a little bit. This cuts that and back goes everybody. It goes a little faster than that, but that's the retraction event in the 1ml. And so that limitation O is also satisfied by the 1ml.

Q. Okay. So quick summary is, for this 1ml product -- we've now been through Claim 43 a second time.

A. Correct.

Q. And do you find that each and every element of Claim 43 is included in the 1mL Integra product?

A. Yes, I do, literally.

Q. Okay. So in your opinion, it uses that definition of Mr. Shaw's invention?

A. Yes.

Q. Okay. All right. There's two other claims in this patent -- short claims in this patent that we're asserting against this 1ml product, Claim 55 and Claim 60.

Can you briefly take us there? And again, these are dependent claims, so, again, it requires that the 1ml have all of the things we just saw, plus some things, correct?

A. Right. And simply it means everything you had in 43, except here's another condition: The retraction cavity is vented behind the plunger seal element.

And you see there are holes here, and once it's activated -- now, here the plunger comes in now, and it stops, okay, medication delivered.

Now it's time to activate the safety measure. You push a little further, and air comes flying out through the vent holes here and out the back end.

So it's -- the retraction cavity is vented. And that's the end of that -- or 55. That limitation is met as well.

Q. Okay. And 60?

A. Simply -- 60 simply says that it's everything in Claim 43, except that continuous container member has an outside mating surface making a fluid seal with the barrel.

So we're going to walk through these drawings again. As you put the red part inside the blue part, you put the needle-holder part in with the retainer member and the bridging portion inside the barrel. Remember, you have a press fit right here (indicating). And if we look at the next -- the next slide -- well, I don't know if we need the next slide. Oh, right. Because we just went through this -- sorry. This is meant to give you guys a little bit of a break.

Remember up here we had this press fit, and it -- and it -- and -- and one -- the red part is bigger than the blue part, and you shove it in there, and it seals, and it has friction and everything, well, what it does is creates a fluid seal. Not only is it held by friction; it creates a fluid seal right there.

Q. Okay. So you concur -- you conclude from that that Claim 60 of Mr. Shaw's invention, he claimed -- he claimed his invention several different ways.

A. Yes.

Q. Claim 60, which is all the parts from Claim 43, plus this specific limitation, Claim 60, is met and found in the 1mL Integra product?

A. Yes, it is.

Q. Okay.

A. It literally infringes Claim 60 --

Q. Okay.

A. -- of the '224.

Q. All right. Let's move ever so briefly to a --

MR. HARDIN: Do we have a summary slide for this patent before we move on?

If not, we can go right to the next patent. That's fine. I think we've -- can we go to the '733 patent, the third patent-in-suit?

Q. (By Mr. Hardin) Okay. The '733 patent, that's Mr. -- we have three patents here, Mr. Shaw, three pieces of property.

A. Correct.

Q. Each piece of property has these separate pieces of the claim definition of invention, and we're asserting some claims of the '733 patent against only the 1ml this time; am I correct?

A. That's correct. The '733 is only being asserted against the 1mL Integra, the one that we just watched in connection with Claim 43 from the '224 patent.

Q. Okay. Now, '733 -- the '733 shares some same terms and information as with the '224 patent, correct?

A. Correct. We're going to see some familiar material.

Q. Okay. And what does the '733 patent focus on? You told us at the outset that we -- that was before the lunch break, I think.

A. Sure. And it primarily focuses on a method of assembly of putting everything, of course, except the needle, in from behind, and also the product itself that is made that way. Claim 1 refers to the product. Claim 24 refers to the method.

Q. Okay. Now, let's take a look, before we make that claim comparison again, to the 1ml and how it's made.

MR. HARDIN: Let's show Exhibit 215, please.

Q. (By Mr. Hardin) Okay. Is this a document, an internal document, from Becton Dickinson that you considered in arriving at your conclusions about the 1mL Integra and whether or not it infringes Mr. Shaw's patent?

A. Yes. This is a drawing -- and essentially, it's an assembly drawing. It's right here. It's part of their design verification review. And it shows how pieces are put together.

The plug is put into the back of the plunger, and the -- what they call their outer hub gets put in. Here's the spring. Here's the cutter. Everybody's loaded from the back, except, of course, the needle, which you can't load from the back because you could damage it.

And of course, the little cap that covers the needle at the end has to go on from this side.

But all the important stuff, the workings of it, are loaded in from behind, as shown here. I don't think there's a dispute about that.

Q. Okay. So that's sort of an overview and evidence of how Becton Dickinson manufactures its product.

Let's turn to Claim 1, which is a product claim, correct?

A. Yes, sir.

Q. Okay. So Claim 1 of the '733 patent, again, it begins with sort of an introductory paragraph?

A. Right. And I think just in our discussion there, that that already got a green check, because it is a tamperproof retractable syringe for injecting fluid wherein the syringe has a one-piece body and et cetera, et cetera.

Once again, this is a preamble. It's not limiting, and we'll see some of these words again.

Q. Okay.

A. So that's met --

Q. All right.

A. -- even though it doesn't have to be.

Q. All right. The next requirement, in order to demonstrate that this product uses Mr. Shaw's Claim 1 of the '733 patent.

A. Sure. As we watched the same video we just saw a little while ago, now the only difference is, is that it's a one-piece hollow body.

Remember, before the body could be two pieces? The 3mL Integra is two pieces. This is a one-piece. And here it has some details about that one-piece body.

Q. So, Mr. Sheehan, we've seen this general same -- this is the same product and the same drawings, but you've colored them differently, is that true, for this presentation?

A. Yes, because of the limitations specifically present in the section.

Q. Okay. So I just want the --

A. Thank you.

Q. -- Court and the jury to understand that we're seeing essentially the same BD drawing again. It is the same BD drawing.

A. It is.

Q. But you've colored it differently in order to explain why that structure also fits the description of the Claim 1 of this patent.

A. That is correct.

Q. Okay. Thank you.

A. So as we look here, it says a one-piece hollow outer body -- well, we saw that as it was being created; it goes -- the rest of it goes off here -- comprising an elongated barrel and a nose.

So the elongated barrel is the blue part. This is the part with a straight constant diameter wall that goes all the way back. That's the -- that's the major length of the syringe, and that's pretty much where the plunger lives.

And then it requires that there be a nose, and the nose is up here in the front. This is the green part (indicating).

And there is a transition zone connecting the barrel and the nose. And the transition zone goes from here where the diameter is 185 to here (indicating) where the diameter is -- well, I'll tell you in a second, as soon as I see the drawing.

But this is where the transition -- where it transitions from this larger diameter to a smaller diameter. And that's the definition of a transition zone.

Q. So on this drawing, it doesn't look like -- first of all, it looks like there's a couple of big changes in diameter out towards the nose.

A. They're in the nose.

Q. They're in the nose, right, in the nose. And that purple part there -- and you have where you said the transition zone is, looks like a very small change in diameter.

A. Well, it's -- it's not huge, but it is a change, and what's important is that it changes from the barrel.

What sets this whole definition up is the elongated barrel. And a barrel is a barrel in a syringe. It's a smooth-walled long piece. And where that ends is right there at that -- at that bump.

And -- and the transition zone is halfway up that bump, and then we'll see in other limitations more definition about that, and we'll also have some discussion about this inwardly facing surface, which is prematurely on this drawing, but it comes into play, I think, in the next limitation.

Q. Now, these reduced diameters, these are -- these are squeezing inward, if you will, correct?

A. Right. As you -- let's say you're -- you know, you're an ant walking along here, and you come along, and you go, whoa, here's a bump, so I'm transitioning.

And then after that, every diameter to the left is always smaller than the blue diameter, which

makes all of this nose (indicating).
Q. Okay.
A. This is the biggest -- this is the biggest diameter. Everybody else over here is smaller.
Q. Now, what you're calling a nose has several diameters itself. Does that mean that it's not all the nose? I mean, there's several diameter changes in the green.
A. Sure. That doesn't matter at all.
Q. Okay. Now, what is the purpose of having that nose with a reduced diameter?
A. Well, there's a -- one -- one -- a couple --
Q. From a -- from a manufacturing standpoint.
A. Okay. Yeah. There are two -- two benefits. From a manufacturing standpoint, if you have something where the diameter drops down, even if it drops down just a little bit, what's great about automatic assembly is, you drop something in, it tends to self feed.
It's like a -- kind of a funnel effect. It's just -- it's a great -- if you have to make, you know, millions of these and you have to make hundreds of them a minute, you want every advantage. And having that -- that transition zone, having that happen helps.
Q. Okay. So let's go to the next limitation. The nose having a reduced cross-section area relative to

the barrel and inwardly facing surface in the wall at the most constricted part of the transition zone where the nose begins.
Does this product have that?
A. Yes. This whole section, which you aptly pointed out earlier or directed me to, all of that has a smaller cross-section. And here, a cross-sectional area is talking about the inside. It's not talking about the outside.
And here we can take a look at this closeup again. And you can see that here's the biggest diameter, 185 out here, and every diameter to the left is smaller.
And there's also an inwardly facing surface, which is the surface here, and that's where we're going to have our friction fit with the retainer member.
And the most constricted part of the transition zone defines where the nose begins, also, and that's right at the tip here. The transition zone starts where the 185 starts to get smaller, and it gets smaller and smaller, and it gets to the most constricted part, and right there is where the transition zone ends. It's a very small transition zone, but that's the definition of it.
Q. Okay. What's the next limitation for this

product in this claim?
A. Oh, the reason this is up here is because potentially an issue might be raised regarding whether something is at the most constricted part in this -- in -- in the 1ml.
And what this shows, that in Figure 8, which is in all three of the patents, it shows that the inwardly facing surface against which -- against which the retainer member presses is not adjacent. It's not toe to toe with the most constricted part.
What this tells you, what this reveals and discloses in the patent, that it's okay to have a little bit of distance between your retainer member and the most constricted part.
So the word at does not mean touching, exactly touching; it means like, hey, I'm at your house; I'm in your car sitting outside your house; I'm at your house. It's at in a broader sense. So that's why I added that illustration.
Q. So if it was -- if we took a very tiny definition of at and said I got to be like in your living room, this drawing would have shown this surface to be right here?
A. Oh, if it had to be -- if -- if the limitation were written to say toe to toe and immediately adjacent

and stuff like that, yes, then that would be line to line like that.

Q. Okay.

A. But, clearly, the inventor says it's okay to have it like that.

Q. Okay. And is -- in the 1ml, is the retainer ring at this most constricted -- at the most constricted part of the transition zone where the nose begins?

A. It is.

Q. Okay. What's the next limitation of this claim?

A. A plunger assembly disposed partially within elongated barrel. Well, that's probably our easiest one. There it is. There's a plunger disposed partially in there. So it's part way in.

Q. Okay. And then the next?

A. This -- this says the plunger having a head in slidable sealed contact -- meaning when you slide this up, this head is going to seal with the outer body -- a forward portion, and a retraction cavity therein.

Okay. Here's the forward portion. Here's the retraction cavity within -- that's that head. That's that black rubber thing that I showed you earlier holding it up over here.

And inside of that -- it's hollow, and there's a retraction cavity. There's this little window here. We'll talk about that soon. And there's a little plug that plugs up the back.

None of this is this color. This is all sort of a white -- a milky white color. It's not all red. This is just for your benefit -- help -- help.

And so this limitation is met.

Q. All right. Next, it says, a retraction mechanism sealingly disposed in the nose.

A. Right. Okay. We've seen a retraction mechanism disposed in the nose. All this adds is that it's sealingly disposed in the nose.

And we know it's sealingly disposed in the nose because we know there's a seal here, because there is a interference fit. There's friction. There's a seal. There's a frictional hole. Nothing's getting by this.

And, of course, the bridging portion is still solid. So it's sealingly disposed in the nose.

Q. Okay. So that gets a check.

A. That gets a check as well.

Q. Next, it says, a retraction mechanism having a retractable part comprising a needle-holder having an elongated body, having a needle-holding tip portion in the front and a head and back, a passageway defining a fluid path through into a variable fluid chamber in the barrel below the plunger and a spring applying retraction force to the retractable part.

A. Okay. Everything except the spring can be seen right here. You see the head. You see the needle-holder. You see the fluid path. The head's in the back. The passageway defining a fluid path. Everybody's -- everything is here.

And now on the next image, you're going to see a familiar picture, and there's that spring. So everybody's accounted for. Everybody meets this limitation. And the 3ml -- the 1mL Integra also has that limitation met.

Q. All right. Next is a retractable part being configured to be able to retract into the retraction cavity of the plunger when retraction is initiated.

A. Well, here you go. Retraction is about to be initiated, and there it goes, and it retracts into the retraction cavity.

Q. Okay. So that limitation is met, also?

A. That one is met as well.

Q. A retraction mechanism further including a non -- oh, I'm sorry.

Retraction mechanism further including a non-retractable part comprising a retainer member surrounding the head of the needle-holder. The retainer member and said head of needle-holder being removably coupled by a bridging portion between them.

A. Okay. This drawing with all of these arrows explains pretty much everything. Here's the fluid path. Here's the needle-holder. Here's that retainer on the outside.

A little different from before. It doesn't say continuous retainer member; it just says retainer member, but same thing. Bridging portion. Here's the head. Here's the gap. It's all there.

Q. Okay. Now, this does use the term retainer member. So, again, using Judge Folsom's definition, does this meet the definition Judge Folsom gave for retaining member?

A. Absolutely.

Q. All right. What's the next limitation?

A. Well, I think -- I think we're continuing on in this one to show -- oh, this has to do with the definition of retainer member showing the presence of friction.

So pardon the repetition, but here are those different diameters showing that the blue part's bigger than the red part, and here's your press fit interference.

And so that one is met.

Q. Okay. All right.

A. The next one requires that the needle-holder and spring be installed going to the nose from the rear, and the sliding engagement, et cetera. And you're going to watch this happen.

In fact, I think you watch -- yeah, here comes the -- there's the cutter, and now here comes the important part, the part that springs, and there is the elongated needle-holder. There's the retainer with the bridging portion. It's gone through. It has a sliding engagement.

And I believe the next limitation -- okay. Sorry. I got ahead of myself.

So the next limitation says, said sliding engagement producing a holding force -- remember, that's that holding force, frictional holding force -- in opposition to the retraction force applied to the holder by the spring.

Q. And, again, we looked at this with respect to the '224 patent, but just briefly, is this Mr. Shaw's explanation of how to obtain that holding force?

A. Absolutely. Once again, a simple, straightforward, clear inventor's description of, hey, let's make the inner piece have a slightly greater diameter than the outer piece, and as a consequence, we're going to create a frictional holding force. It -- he speaks the truth.

Q. Now, is there any way for you, as a scientist, to test the amount of friction present? You've said that the friction's present because these things are an interference fit.

A. Uh-huh.

Q. Is there a way to test that?

A. Sure. In a perfect world, you could -- if you had something press fitted to something else, you could use an Instron or some other kind of testing device, and you could measure how much force there is, and you could -- I could come up with a number, and I could say, you know what? The frictional force there is 2.78 pounds.

But the problem is, if you recall in this 1ml product, I acknowledged that there is a little bump called the hub location ring. And so to be fair, part of what holds that in place is not friction, but there is a small mechanical contribution.

So how do I test that? I can't perform a regular test and push the needle back -- let's say push the needle into something hard and try to push it back, because I would be measuring both the frictional force and the mechanical force.

It's like you can't put two people on a scale and weigh each of them. All you get is the total weight. So what you have to do is whatever you can. And because I was interested in getting a rough idea, a ballpark amount of how much is friction force, even though the claim and the Court's construction only requires some frictional force, I performed some testing.

Q. Now, did you do that testing -- why did you -- what caused you to do that testing?

A. Well, as an expert in plastics and medical devices, I knew that the press fits -- just like Mr. Shaw knew, that the press fits were going to be adequate to provide the friction to hold the needle in the -- in the proper position.

However, the expert for BD, during his deposition, made some comments -- not comments -- he made statements that just were not in his report. We -- all experts are required to write reports and things, and then we get --

MS. PIROZZOLO: Your Honor, may we approach?

THE COURT: Very well.

(Bench conference.)

MS. PIROZZOLO: I don't think questions of that character --
THE COURT: Yeah. I don't know if it's appropriate.
MR. HARDIN: Okay. When we're past --
THE COURT: Yeah. I'll sustain it.
(Bench conference concluded.)
Q. (By Mr. Hardin) Mr. Sheehan, for purposes of today, you did -- you looked at it and concluded, as an engineer, you thought it was frictionally fit?
A. Yes, sir.
Q. And then you did some tests later?
A. And then I was prompted to do some testing.
Q. Okay. So explain what tests you did.
A. Okay. In order to test how much of the force, the total force, was frictional or how much friction force was there, I disassembled 10 -- no, 20, I think -- 20 1mL Integra syringes that were given to the attorneys for RTI by BD. You know, it's a BD product.
And I took them apart. I took the springs out, and I measured the force that the spring was pushing, because the limitation talks about how much -- you see -- you see up top, it says the needle-holder by the spring.
So I wanted to compare, well, okay, how much

is the force -- the spring pushing and how much friction is there coming back the other way.

So I took 20 of them apart, and I measured -- I took 20 springs, and I measured them on a little fixture that kept them corralled as if they were inside that cutter, as you saw. Excuse me.

And I squeezed it down to the exact height that they were in the actual product, which is 400,000ths tall, 400,000ths of the length, and the average force at the spring generated was .0735 pounds, which is about a little over an ounce.

So you think of a postal scale, you think of kind of a fat letter that weighs an ounce, that's about how much that spring was -- is pushing back. It's about a 1 ounce, 1.1 maybe ounce of spring.

So now I know how much force the spring is. So now comes the hard part. How am I going to figure out the friction part?

So we better take a look at the next slide, and we better progress it one more.

I took those 20 pieces -- remember, I took the springs out. Then in doing so, I took the needle and the needle-holder -- I took all of that out the back end. That's the only way you can get it out. It has to go out the back end. I didn't want to fire any of these.

Now, I then put them back in. I took the cutter out, because I didn't want any of these things to be cut. So I took the cutter out, and this particular picture shows -- you can still see a spring in there, but this is just for demonstration, and then I'll tell you about it in a second.

Thank you.

But what I did is -- now, I -- this -- I'm sorry. The syringe is pointing to the right this time, okay? Yeah. I'm sorry. We turned it around on you. See this black line here? That's a -- that's a marker on the -- that's a black ink line on the actual syringe saying that's where zero is, and this is a little marker, and there's a whole bunch of them with numbers.

This is that location ring. I pushed the retainer needle-holder piece forward of that, because this diameter is the same as this diameter. So I'm getting a good -- an accurate test.

And I measured the force required to push on this end of the needle, which I cut off carefully so that I wouldn't get poked by the pointing needle, and we just pushed on it using -- and when I say we, I used some technicians at RTI using the same equipment that

they do their FDA required testing with.
And we pushed on it and got measurements an average of 1.33 pounds. Now, that's about 18 times stronger than the spring. But that's not really the whole story.
Q. So I can understand, the spring is -- the spring is -- when the spring is in there, the spring is pushing up at about an ounce?
A. About 1.1 ounce, a little over that.
Q. Okay. And when you tried to push this further out, you got 18 times?
A. About 18 times.
Q. Okay. So it's 18 times the force?
A. Right. So -- so -- so the retainer -- the friction holding the retainer in -- in this modified position -- and I'll explain why it's modified in a second -- was already 18 times stronger than the spring. But that wasn't enough. You see, there's a gap right there. You see that gap right there (indicating)? Well, that's because this location ring is no longer there.
I wanted to be able to measure what is the friction force without the mechanical contribution of the location ring. I'm trying to subtract it out.
Q. So -- so -- so the -- the actual retainer ring

has a groove in it?

A. The retainer ring -- the retainer ring -- I'm sorry. The location ring on the barrel sticks in.

Q. Okay.

A. And there's a groove on the retainer ring -- retainer member --

Q. Right.

A. -- that matches up with it. That was those -- that's when the red and the blue things lined up in that earlier big picture.

Q. And so you pushed it further into the barrel so that the bump was no longer in that groove?

A. Exactly.

Q. Okay. And then that let you just measure what the friction was on the wall without having the added holding force of the bump in your measurement?

A. What it did was, it allowed me to measure the holding force without the mechanical part, but at the same time, I lost the press fit at that location ring. So 40 percent of the number is missing. If there were no location ring, this would be dead flat, and this number would be over 2 pounds.

Q. Okay.

A. So because of this, I measured a -- a compromised version. 40 percent of it is missing axially in length. So this number you really kind of divide this or you factor it --

MS. PIROZZOLO: Your Honor, may we approach?

THE COURT: Yes.

(Bench conference.)

MS. PIROZZOLO: There's nothing about this in his report.

MR. HARDIN: Well, he issued a supplemental report, and she came and took his deposition specifically on the supplemental report, Your Honor.

THE COURT: Well, I mean, is any of this information in the supplemental report about this testing? I don't --

MR. HARDIN: The testing, that was the supplemental report.

MS. PIROZZOLO: That's not his characterization that he's talking about now.

MR. HARDIN: Well, she took his -- we all --

THE COURT: You took his deposition after he gave the report and had all this testing in it?

MR. HARDIN: Yes, sir.

MS. PIROZZOLO: But he didn't talk about

this relative force that he's talking about.

MR. HARDIN: She didn't ask him the right questions, but all of this is in the report, Your Honor.

THE COURT: Well, I'm going to -- if it -- if you represent it's in the report, I'm going to allow it, and obviously, you can take this up post-trial, and if it's not in the report, you can file a motion based on that.

So --

MR. HARDIN: Okay.

THE COURT: -- I'm going to allow you to go forward based on that representation.

MR. HARDIN: All of the data that we're seeing on it was in his report, and Counsel came to take his deposition on that report and asked all the questions they pleased.

MS. PIROZZOLO: I would just add, the data was in the report, but it's my understanding that experts are supposed to disclose their opinions in reports when they conduct testing.

THE COURT: Well, I mean, it looks like you had the opportunity to depose him on the testing. Did you not ask him whether he had formed any opinions as a result of --

MS. PIROZZOLO: I did that, but he did

not answer --

THE COURT: Well, you're certainly entitled to cross-examine him at length.

But does this have an end?

MR. HARDIN: Yes. Pretty quickly, Your Honor.

THE COURT: Well, let's wrap it up.

(Bench conference.)

Q. (By Mr. Hardin) Mr. Sheehan --

A. Yes, sir.

Q. -- so I know you were very interested in this report, because you're an engineer.

A. Yes, sir.

Q. Can you summarize the report, can you summarize your conclusions for us, please?

A. Yes, sir. That even in this handicapped position, because there's a part missing, and there's also silicone that's been contaminating that, that the -- the force should be more along the lines of between 2 and 3 pounds.

Q. All right. And why was that conclusion important again? We might have lost that since we -- because we -- since we went into the test.

A. Oh, because what I was trying to do is measure how much force was friction --

Q. All right.
A. -- was attributable to the press fit interference friction and discount any mechanical contribution, however worthy, that was contributed by the locating ring.
Q. And does that mean that this Element K of this claim, in your opinion, is present in that device?
A. Absolutely.
Q. Okay. Let's move to the next element.
A. Oh, I'm sorry.
Q. K -- L.
A. Oh, okay. Yes. Sorry. Here simply the plunger is depressed. We'll do a first position, and this is a first position. Now it's squirting out. This is an H1N1 vaccine. And that's all it has to do. It has to be able to do that.
Q. Okay.
A. Yes.
Q. So that limitation is present, also?
A. That's right.
Q. All right. And finally, M?
A. And I think we have a finally here.
Q. Right.
A. Finally, a retraction position. Once again, just like we've seen similarly, after you come to that

first position where you've expelled all the flu vaccine into the patient, it goes on to -- forward to an additional position. This moves through the transition zone right here.

And you'll see this move through that little orange area, and it releases the needle-holder -- that's this part (indicating) -- from the retainer member, which, of course, is a non-retractable part, and essentially, the force becomes less than the retraction force on the needle.

In other words, it lets -- it lets the spring -- gets out of the way, lets the spring whoosy -- whoosy -- as it is, do its job. And so we'll see that happen right now.

And you've seen this before. We're going to zoom in on it, and you see the plunger in sort of a lavender color push on the red part. It slides forward, and the cutter, it cuts. The non-retractable part stays up in the front, and the retractable part goes back, being released from the frictional hold.

Q. So is it your conclusion that the 1ml syringe has all of the requirements of Claim 1 of the '733 patent that Mr. Shaw obtained?

A. It is my opinion, yes.

Q. Okay. The last claim we're asserting, Claim

24 in this patent.

A. Yes, sir.

Q. Okay. This is a method of assembly. And we have a lot of the same terms, so we're going to try to go through this fairly quickly.

Is it fair to say that this is a method of assembly that describes how all the things are loaded into the 1ml syringe?

A. Precisely. And here's a drawing from BD showing exactly that.

Q. Okay. So let's move through the first part of this claim.

A. Providing a one-piece hollow syringe body. Familiar. We've already seen this. And instead of watching the movie, you get to see the still at the end. So that's met.

Q. Right.

A. Now, comprising an elongated barrel in a nose portion of reduced cross-sectional area relative to the barrel.

And what we see here is exactly what we saw in the other limitation regarding the structure, is that we see -- we -- we see that the diameter out here is bigger than all the diameters in there. So it's a reduced cross-section.

Q. Okay. Next.
This is the inwardly facing surface in the wall at the most constricted part of the transition zone between the barrel and the nose where the nose begins.
Same as we saw before?
A. Same as we saw before. And that's why I had inwards facing surface on the other earlier slide, because now you can appreciate exactly where it is. It's right there. So it's where the red part is frictionally sealed against.
Q. Okay. Next. This is the same slide for the same purpose, just showing what at means.
A. Exactly.
Q. Okay. What's the next?
A. Providing a plunger assembly having a front portion and a back portion, front portion, including the head, configured for a sliding contact with the interior of the barrel.
It just means that this part here seals.
Q. Okay. What's next?
A. Let's move on to F.
Said head -- that means the head that we've mentioned before -- having a retraction cavity and a leading end.
We saw the retraction cavity in that still.

We saw the leading end. And now we're going to see -- here's a retraction cavity, and when it gets activated, all this stuff goes up into the retraction cavity.

Q. Okay. And that's mounted in the nose?

A. Correct.

Q. Okay. Next.

A. G, providing a needle-holder having an elongated body portion.

Well, let's take a look at this. Here's our elongated body portion. Some arrows will come in and show this. There's a needle-holder. This is the elongated body portion. There's the fluid path, and we're out.

Q. Okay.

A. And that's pretty much it.

Q. Okay. H?

A. H. Just a little more detail. The head of the needle-holder having a retainer member.

There's the retainer member, and here's the bridging portion. Here's the gap underneath the bridging portion, which can be separated from the needle-holder by contact with the leading end of the plunger.

So when the plunger comes down and pushes this, it permits the separation of this and this at the

bridging portion.
Q. Okay.
A. That's met.
Q. Okay. Next.
A. Oh, the reason we're looking through this is because a retainer member is a Court claim construction item. So very briefly, we're going to look right here where it shows the press fit, which is where the friction is.
And remember, the retainer member definition by the Court says some friction or clamping at this area.
Q. Okay.
A. And here you see the familiar pictures.
Q. All right. Next element.
A. Moving along -- this is a little -- well, here we go again. The retainer member having an outwardly facing surface configured to slidingly and frictionally engage the inwardly surface.
So you've got an outward surface facing an inward surface and the nose against the retraction force of the spring.
So we can blow right through this, because this is exactly the same that was in the apparatus claim, the structure claim. This is in the method

claim.

I tested the springs. I tested the force -- or the frictional force to the extent I could. It came out 1.33 in a handicapped sort of way. The true fact is it's between 2 and 3 pounds.

Q. Okay.

A. That limitation is met.

Q. Next element.

A. And this also addresses the at issue, which has already been taken care of.

Q. All right.

A. Now, the bonus is, the last three get done at once. This consists of loading the spring, followed by the needle-holder into the back opening, positioning the forward portion of the spring and a portion of the elongated body of the needle-holder within the nose, moving the head end of the needle-holder and the retaining member into the most constricted part of the transition zone where the nose begins -- remember, that's that little orangy part -- and finally, installing a needle-holder and retainer member in the nose by sliding engagement -- that's that sliding press fit -- go to the inward release -- or the outwardly facing surface and the inwardly facing surface while compressing the spring.

Now, all of those words, which are a lot of words, occur in one animation, and you've seen it already. So this will be old news. There's the front end of the barrel coming down.

And you can see in the blueprint what's coming, and here they come from the right again. You see it again. There's the cutter. Here comes the spring. It's coming more slowly than I'd like, but there's the needle holder. There's the retainer member, and that's a slide at the inwardly and outwardly surface.

Inwardly surface -- an inwardly facing surface and an outwardly facing surface are pressed against each other in a sealing manner.

And all three of those limitations are met. And all three of them get a green check.

Q. So is it your opinion that when this 1mL Integra product is made by BD, that the method by which it's manufactured is -- is the method that uses each and every limitation of this Claim 24 of Mr. Shaw's patent?

A. It is.

Q. All right. Now, in addition to studying the issue of whether or not these two products, this 3mL Integra and the 1mL Integra, used Mr. Shaw's inventions as we've -- as set forth in these claims, did you study the matter of whether or not, in your opinion from documents you saw from BD files, the engineers copied some of these features in their product?

A. Yes, it is my belief that they did.

Q. Okay.

A. And the documents support that.

Q. And you're basing your belief based on -- you're basing your opinion based on documents you saw from internal BD sources?

A. That's correct.

Q. Did you review any of the BD engineer depositions?

A. Yes, I did.

Q. Okay. Now, we heard in opening that BD is claiming they're using a cutter technology that they purchased and not the Shaw technology.

Is BD using the technology they purchased from Saf-T-Med?

A. No, they are not.

Q. So what's the basis of that?

A. Well, they're using a cutter, but they are not using the cutter technology disclosed in the McGary patent, which was purchased by BD.

Q. What makes you say that?

A. Because the essence of the McGary patent is that the seal on the front end of the plunger moves longitudinally and relative to the plunger. It slides back on it in order for the cutter to appear. Not in order to; in conjunction with it.

So whereas they do use a cutter, they do not use what I would term the cutter technology of the -- of the McGary '010 patent that they purchased.

Q. Okay. Do you know from your study of these engineering drawings whether or not BD used even one single part of the Saf-T-Med design that they purchased?

A. Based on my study, they didn't use one single part.

Q. Okay. Do you know whether BD considered Shaw's patented technology before purchasing Saf-T-Med?

A. Yes, I know that they did.

Q. Now, did you see documents that indicated what BD thought of Mr. Shaw's technology at the time he submitted it?

A. Yes. I have a recollection that they were impressed with it. I think that they said something along the lines it was the best version of this type of technology, something along those lines. It's in the document.

MR. HARDIN: Can we see Exhibit 87, please?

Q. (By Mr. Hardin) Is this the document you're referring to?

A. I think so. It will have to be zoomed in for me.

Q. It is felt that neither of these technologies could be produced to lower cost in a SafetyGlide combo or a Safety-Lok combo. And a significant R&D and capital investment would be required to market such products unless either of these products was seen to be significantly more attractive in the marketplace, it doesn't seem like either is worth pursuing further, given the typical retractable technology drawbacks, although these both are some of the best embodiments of the concept.

A. Right. That's the section I was recalling.

Q. Okay. Did BD ask for samples of Mr. Shaw's product?

A. Yes, they did.

Q. What was the purpose of obtaining the samples from Retractable as far as you can tell -- or the internal documents show that BD did with those samples?

A. What they actually did was they did comparative testing.

MR. HARDIN: Can I see Exhibit 4?

Q. (By Mr. Hardin) Is this the document you're referring to about comparative testing?

A. I believe it is. It's a little hard -- I'd have to have the zoom-in.

Q. It says: On Monday --

A. Yes.

Q. -- July 28th, a brief discussion about the VanishPoint retractable syringe took place. Discussion focused on what competitive product testing is to be done with the limited amount of samples that we have.

A. There it is.

Contrary to evaluating them in terms of, gosh, maybe we should do some business here, what it is it turned out to be is just a competitive analysis and let's see what our competitor is up to.

Q. Now, did BD engineers just slavishly copy Mr. Shaw's design?

A. Of course not. That would be too obvious.

MR. HARDIN: Can I see Exhibit 138, please?

Q. (By Mr. Hardin) Does this document indicate anything to you about what the BD engineers were doing with the technologies that they looked at in order to create the Integra?

A. Yes. It describes it precisely.

If we can zoom in on the first one -- or I'll read it.

Identify strengths and weaknesses of the Saf-T-Med design and competitive product, VanishPoint and Zero-Stik.

So they're looking at -- they're comparing the Saf-T-Med design, which is the one that they essentially purchased, and VanishPoint, which is the RTI product, Mr. Shaw's product, and then another product, Zero-Stik by a different manufacturer.

Q. Okay.

MR. HARDIN: Finally, can we take a look at Exhibit 351?

A. There's Item 2.

Q. (By Mr. Hardin) Oh, I'm sorry.

A. And so bearing that in mind, the idea was let's develop a hybrid design that incorporates the strengths and eliminates the weaknesses of the Saf-T-Med design.

So here's a straightforward acknowledgement that they're going to be importing things from -- from the VanishPoint, which is the commercial embodiment of a number of these patents.

Q. And that importation, in your view, caused their product to be described by the claims we've just went through with the jury?

A. That's exactly right. They Shaw-ized them.
Q. Finally, let's take a look at Exhibit 351. This is another BD internal document?
A. Yes, sir.
Q. And does this show the entire -- what are we seeing there? Are we seeing the entire syringe or just pieces of the syringe?
A. No. What we're looking at here are just the plunger portions. And the upper one is the RTI product; next is the Saf-T-Med product, and down below is the BD. And I think this is the 3ml. We're back into the 3ml land.
And what you can see is that the Saf-T-Med has a collapsible plunger. See those little -- it says breaking tabs there? What that means is in order for this to work, you have to break those tabs and collapse the plunger. And that's why there is a limitation. Remember, there was limitation in a number of the claims saying wherein the seal on the end of the plunger cannot move longitudinally.
Q. That's Mr. Shaw's claims.
A. Those are Mr. Shaw's claims, right.
And this -- this is how the Saf-T-Med product worked, which is related to McGary and Jensen.
Q. But the last one on the page is BD; just says

BD.
Is that a picture of the 3ml plunger?
A. That's the 3ml plunger, yes.
Q. And does it have a stopper that slides back?
A. No, it doesn't. It has a fixed stopper just like RTI.
MR. HARDIN: Your Honor, may I approach the bench?
THE COURT: Yes. Approach, please.
(Bench conference.)
MR. HARDIN: In connection with the Daubert motions, we had in Dr. Hyman's report information about what we considered to be product defects, that they had essentially made this product in a way that spoiled the market.
Mr. Sheehan had a whole set of similar information. It was not a formal, however, Daubert objection to that, and so Your Honor never ruled on that.
But instead of proceeding forward on that, when I know that it's been excluded by Hyman, I need a ruling from Your Honor on that.
THE COURT: The ruling will be the same on this witness as Dr. Hyman.
MR. HARDIN: So that will be excluded.

THE COURT: What would be the purpose of -- I've never heard such a theory. What would be the purpose of such a theory?

MR. HARDIN: Well --

THE COURT: I'd sort of like to hear. The infringement did such a bad job, they --

MR. HARDIN: It's because they used a hybrid, Your Honor. It's because, from a patent standpoint, it shows that if you go very far away from Mr. Shaw, you don't end up with a very good product. That's the patent reason that -- variations away from it show that he really got the formula right.

That's why we thought it was relevant, the patents, without even an antitrust overtone. But Your Honor has excluded it. I just need the ruling.

THE COURT: Is your position the same?

MS. PIROZZOLO: We understood it's excluded. Yeah, so we don't see the relevance.

THE COURT: I tend to agree, so I'm going to have the same ruling as to this witness as to Dr. Hyman.

MR. HARDIN: We understand the ruling, Your Honor. We will probably be making written offers of proof.

THE COURT: Yeah. Okay. Very well.

But I understand you're offering this witness as not in an anticompetitive -- not under an anticompetitive theory but under what?

MR. HARDIN: No. Simply to demonstrate that the non-obviousness of Mr. Shaw's designs -- in other words, the -- the fact that he hit the nail on the head, as demonstrated in part that if you -- if you vary those designs even -- even slightly, which they did, they didn't go outside his claims -- but if they added other things, they ended up making a bad product.

MS. PIROZZOLO: But how does that go to patent claims which have to be in our product?

MR. HARDIN: It doesn't go to infringement at all. It goes to validity. It just shows --

THE COURT: Very well.

MS. PIROZZOLO: Validity.

THE COURT: My ruling is going to be the same.

MS. PIROZZOLO: Thank you, Your Honor.

(Bench conference concluded.)

THE COURT: How much longer do you expect on direct?

MR. HARDIN: If Mr. Sheehan can sit down, I just have one more question.

THE WITNESS: Great. Works for me.

Q. (By Mr. Hardin) Mr. Sheehan, you've worked in this field for a long time.

A. That's correct, sir.

Q. And we heard in opening statement that BD believes that because it has a cutter as an important part of its products, that somehow they don't use Mr. Shaw's inventions.

A. Yes, I've heard that.

Q. Having done this analysis and understanding Judge Folsom's rulings here in this book --

A. Yes, I understand.

Q. -- what is your belief on that topic?

A. My belief is that it's irrelevant whether or not a cutter is used at all.

Q. And, therefore, that you believe -- do you believe that BD has, in fact, used Mr. Shaw's inventions as set forth in these claims?

A. Absolutely. Even if the cutter is an integral or a necessary or an important part of the product, nonetheless, remember the comprising language. The 1mL and the 3mL BD Integra syringes infringe each and every one of those claims that I walked through.

MR. HARDIN: Okay. We have no further questions for this witness.

THE COURT: Why don't we take a short break before cross-examination, not quite as long as we normally would, since we've already taken a short break.

We will be in recess for 10 or 15 minutes at most.

COURT SECURITY OFFICER: All rise.

(Recess.)

COURT SECURITY OFFICER: All rise.

(Jury in.)

THE COURT: Please be seated.

Cross-examination.

CROSS-EXAMINATION

BY MS. PIROZZOLO:

Q. Good afternoon, Mr. Sheehan.

A. Good afternoon.

Q. Now, I think you just said that the cutter in the Integra syringes is irrelevant.

A. Irrelevant to the infringement issue.

Q. If you took the cutter out of the Integra syringes, they wouldn't work, would they?

A. Actually, in the 3ml, it's true, it wouldn't work. In the 1ml, though, I believe it does work.

Q. The 3ml, it wouldn't work, correct?

A. I'm pretty sure the 3ml wouldn't work, right.

Q. And the 1ml, you don't know if it would work?

A. No. I'm sorry, ma'am. I think I said that I believe it does work. I've made it work.
Q. Now, is it normal and customary for a company to keep abreast of its competitors' products?
A. Yes.
Q. We looked at a document from June 1997 where BD had VanishPoint syringes, correct?
A. Yes.
Q. Okay. VanishPoint syringes were public and being sold at that time, correct?
A. That is my understanding, yes, ma'am.
Q. Now, Mr. Sheehan, many syringes have a barrel, correct?
A. Yes, ma'am.
Q. RTI was not the first to patent its syringe with a barrel, correct?
A. Correct.
Q. Many syringes have a plunger, correct?
A. Yes, ma'am.
Q. RTI was not the first to patent a syringe with a plunger, correct?
A. Yes, ma'am.
Q. Many -- the plungers in many syringes have a seal at one end, correct?
A. Yes, ma'am.

Q. RTI was not the first to patent its syringe plunger with a seal at one end, correct?
A. No. Not as you describe it, no.
Q. The plungers in many syringes have a thumb cap, correct?
A. Yes, ma'am.
Q. RTI was not the first to patent a syringe with a thumb cap, correct?
A. That's correct.
Q. Many syringes have a needle, correct?
A. Yes, ma'am.
Q. And I think you said vents also exist in the prior art, correct?
A. That's correct.
Q. RTI was not the first to patent a syringe with a vent, correct?
A. That's correct.
Q. Collars existed in prior art?
A. Yes, they did.
Q. And collars were even known to make -- to be used to make the plunger inaccessible for grasping, correct?
A. That's correct.
Q. Now, Mr. Sheehan, there are three patents being asserted in this case?

A. Yes.
Q. Okay. And those are the '733 patent, the '224 patent, and the '077 patent?
A. Yes, ma'am.
Q. And all of them relate to automatic retracting syringes, correct?
A. They do.
Q. And RTI was not the first to patent an automatic retracting syringe, correct?
A. Correct. Yeah, sure.
Q. Now, you talked -- let me strike that.
Mr. McGary had filed a patent to a retractable syringe before Mr. Shaw filed his patents, correct?
A. Mr. McGary and Mr. Jentzen, yes.
Q. Okay. And, in fact, there were many patents to automatically retracting syringes before Mr. Shaw filed his patents, correct?
A. Yeah. I believe I testified to that, yes.
Q. You also said that none of those designs were made into a plastic object; is that right?
A. I think I said that none of them were made into a product that reached the market and saved a life.
Q. Well, you've heard of a company called Saf-T-Med, correct?
A. Yes.

Q. Okay. That is the company that was purchased by BD, correct?
A. Yes.
Q. Okay. And Saf-T-Med had licensed the McGary patents, correct?
A. That's correct.
Q. Okay. And Saf-T-Med made a retractable syringe, correct?
A. Saf-T-Med made a retractable syringe that did not see the market.
Q. Saf-T-Med obtained FDA approval for its retractable syringe, correct?
A. Interestingly, no. What they received was FDA clearance. There's a difference. Approval is something you get when you go through the P&A process. It's a far more rigorous process.
Clearance is what you get when you go through the 510-K process, which is a shorter process, briefer process, where the FDA looks over materials supplied by the manufacturer, who swears and has to be truthful, that my product is just as safe and effective as another product that was approved -- cleared by the 510-K process.
So with that clarification, next question.
Q. Saf-T-Med made a plastic object, an automatic

retracting syringe, correct?

A. Sure. Of course, they made a plastic object.

Q. And it was -- received clearance from the FDA, correct?

A. Correct.

Q. Now, let's look at Exhibit -- Defendant's Exhibit 78, please, which is the '733 patent.

Now, '733 patent is one of the RTI patents in this case, correct?

A. Yes, ma'am.

Q. I want to turn to the page of the patent that discusses the background of the art.

MS. PIROZZOLO: That's on the second page of the patent.

Q. (By Ms. Pirozzolo) Okay. And in that section, the patent -- the inventor described the background of the art, correct?

A. That is the purpose of that section, yes.

Q. And at Column 1 in Lines 31 to 33, the patent states, quote: There are a number of syringes of different designs which have needles which will retract at the end of the injection cycle, correct?

A. Yes, that's correct.

Q. Okay. And then the background section goes on to point out certain problems with the prior art,

correct?
A. Sure. That's a fair statement.
Q. Okay. For example, at Column 1, Lines 48 to 52, the patent says: Other problems with the prior art are dependence on flexing or breaking of internal parts by the plunger in order to release the retraction mechanism and use of a diaphragm at the end of the plunger which must be penetrated by a needle-holding member and spring, correct?
A. That's what it says, yes, ma'am.
Q. So that's what was identified as a problem with earlier retracting syringes, correct?
A. Yes.
Q. Okay. The patent also says at Column 1, Line 54: Small broken-off pieces can present a risk of hang-ups, correct?
A. Yes.
Q. So that was another problem with the prior art.
A. (No response.)
Q. And at the conclusion of the section on background of the art, the patent states, and this is at Column 2, Lines 19 to 23:
The prior art has not recognized a retraction mechanism with separable parts that relies entirely on

clamping force or friction at a smooth-walled reduced diameter transition zone in the barrel with mating lands which are slidably or separably released, correct?

A. Is your question does it say that?

Q. That's how --

A. It says that.

Q. Okay. Now, using cutting to release the needle is not described in the RTI patents, correct?

A. The actual word cutting is not -- does not appear.

Q. Now, the '733 patent, which we're looking at, describes different syringe -- different embodiments of the invention, correct?

A. Correct. Three, as I recall.

Q. Okay. And one of those embodiments is what you have called a friction-based retraction mechanism, correct?

A. That's a fair statement, meaning friction and friction, yes.

Q. Yes.

A. The first embodiment.

Q. The term you used was friction-based retraction mechanism, correct?

A. You mean here or in my deposition?

Q. In your expert report.

A. Oh, okay. Fine. Yeah.
Q. And in that mechanism, the spring force is released by sliding disengagement of the needle holder and the wall of the syringe, correct?
A. Say that again.
Q. In the friction-based mechanism, the spring force is released by sliding disengagement -- I'm actually using your words from your expert report -- of the needle holder and the wall of the syringe, correct?
A. Yes, that's fine.
Q. Okay. Now, RTI's commercial product, the VanishPoint, uses that embodiment, correct?
A. Yes. The RTI VanishPoint product line uses the first embodiment.
Q. Okay. You don't contend the Integra syringes use that embodiment, correct?
A. No, I do not.
Q. Okay. So the Integra syringes do not use the embodiment that you say the VanishPoint syringes use, correct?
A. In which -- which -- which patent?
Q. I'm talking about the friction-based embodiment, okay? That's used by the VanishPoint, but not by Integra, correct?
A. Separate of any claims, you're just saying the

embodiment?
Q. Yes.
A. Okay. When it comes to just the embodiment, sure. That is -- the first embodiment is not the embodiment that BD practices. They practice the third one.
Q. Okay. So the Integra syringes don't use the same retraction mechanism as the VanishPoint syringes, correct?
A. Define retraction mechanism.
Q. Friction-based retraction mechanism.
A. No, they use friction.
Q. Well, the friction-based embodiment in the patent is not used by BD, correct?
A. Excuse me. It's a semantic term, but there is friction in -- in all three embodiments.
Q. Okay. But when we were talking before, you said there were three embodiments.
A. Uh-huh.
Q. And one of them you described as the friction-based retraction mechanism, correct? That's how you described it in your report?
A. Regardless of how I described it in my report as a -- for a shorthand, the fact of the matter is that the first embodiment is friction and friction.

The second embodiment is just friction.
The third embodiment is friction and bridging. And it's the third embodiment that BD uses.
Q. Okay. VanishPoint uses friction and friction, correct?
A. Correct.
Q. BD doesn't use that, correct?
MR. HARDIN: Your Honor, I think we are using a product-to-product comparison now. I think that's inappropriate.
THE COURT: I sustain the objection.
Q. (By Ms. Pirozzolo) Now, you also talked during your direct testimony about the bridging portion embodiment, correct?
A. Yes, ma'am.
Q. Okay. RTI's VanishPoint doesn't use the bridging portion embodiment, correct?
A. That's correct.
Q. So RTI's VanishPoint doesn't practice the claim with the bridging portion that are being asserted against BD in this case, correct?
A. That's correct.
MR. HARDIN: Your Honor, same objection.
THE COURT: Sustained.
Approach the bench, both of you.

(Bench conference.)

THE COURT: Where are you going with this line of questioning?

MS. PIROZZOLO: Well, this is relevant to the nexus between the patent claims and the success of the invention. They're claiming that VanishPoint is a terrific invention, and it solved a long-felt need. Well, the nexus is the between --

THE COURT: So you're going to the nexus issue?

MS. PIROZZOLO: Yes.

MR. HARDIN: But, Your Honor, she keeps talking about her product and our product. It has this and this doesn't have that.

THE COURT: Yeah, it's almost like you're comparing the two products. So why don't you rephrase the question in the terms of the nexus and see where that leads us.

MS. PIROZZOLO: Well, I think I don't need to ask any more questions on that.

MR. HARDIN: All right. As long -- that solves it, too.

THE COURT: That solves that.

(Bench conference concluded.)

Q. (By Ms. Pirozzolo) Mr. Sheehan, you talked

about Figure 8 in your direct examination, correct?
A. Yes, ma'am.
Q. I'd like you to look at Figure 8 and walk through the portions of Figure 8.
Now, I've colored Figure 8 just for ease of reference. Do you agree that the gray color is the barrel in Figure 8?
A. No, ma'am.
Q. Okay. What is this portion here (indicates)?
A. The entirety of it is the body. What you can see there is the nose and then eventually the transition zone as it leads to -- as it goes north.
Q. So this is the --
A. So the barrel is further back.
Q. This is the wall of the syringe?
A. Well, now you're kind of pulling there.
I have no problem with that being described as an outer wall of the syringe body. It has a particular name in the patent.
Q. Okay. And this blue portion is the retainer member in Figure 8, correct?
A. That's correct.
Q. Okay. And the yellow portion is the needle holder, correct?
A. That's correct.

Q. And Figure 8 shows the needle holder and the retainer member as two separate pieces joined by a bridging portion, correct?
A. That's correct.
Q. Now, in Figure 8, there's a frictional hold between the blue retainer member and the wall of the syringe, correct?
A. That's correct.
Q. And during retraction in the Figure 8 embodiment, that friction is released, correct?
A. It is released from -- from holding the needle holder so that it can -- the needle holder can retract.
Q. Well, it's also released from the retainer member, correct?
A. Ask me the question again.
Q. We're talking about the retainer member --
A. Sure.
Q. -- right?
A. Sure.
Q. You said there's friction between the retainer member and the wall of the syringe.
A. Yes.
Q. And during retraction, in the Figure 8 embodiment, the frictional force between the retainer member and the wall of the syringe is released, correct?

A. It is released from -- from the needle holder.
Q. Well, I'm talking about the retainer member, so if you could focus on that, please.
You said there's friction right at this location (indicates) --
A. Sure.
Q. -- between the retainer member and the wall of the syringe.
During operation --
A. Uh-huh.
Q. -- in the embodiment shown in Figure 8, the friction between those two pieces is released, correct?
A. Well, to the -- to the extent that that piece slides, it overcomes it. Sure.
Q. So the friction is released, correct?
A. Well, it's mollified, attenuated.
Q. Released? Sir, is the friction force between --
A. No, no. I -- I understand. It's just you're asking a question that's not one of those yes or no questions.
So -- so the friction that's between the retainer member and the wall, while it -- it still remains to some degree, it -- it is reduced by virtue of the fact that the retainer member is slid.

So is that releasing?
Q. Well, the retainer member slides forward --
A. Yeah.
Q. -- during retraction.
A. Yeah.
Q. So the retainer --
A. And that's -- that's the point I was trying to make, and I felt that you may have been blocking me from doing that. And I just wanted to be clear that the retainer member moves down by virtue of the plunger, the front end of the plunger pushing it that way.
Q. So when it moves down, there's some change in the frictional force there, correct?
A. Sure.
Q. Now, you asserted patent claims set forth RTI's invention, correct? The ones that are being asserted in this case.
A. That's correct.
Q. And the asserted patent claims, as you've gone through in great detail, set forth very specific elements of the invention, correct?
A. Yes. Like any claim, there are very specific elements, sure.
Q. And to find infringement, you have to find each and every element of those claims in the accused

product, correct?
A. Absolutely.
Q. So if a single element is missing, there can be no infringement, correct?
A. That is correct.
Q. Okay. Now, the asserted claims of the '733 patent all require a, quote, retainer member, correct?
A. '733 is either container member -- or retainer member or continuous retainer member. I'm not sure.
Q. Okay. And all the claims of the '224 patent also include the requirement of a retainer member, correct?
A. In one form or another.
Q. Okay. Now, I want to focus very closely on the retainer member requirement of the claims, if we can.
A. Sure.
Q. I'm going to put up the Court's claim construction of retainer member.
So under the Court's construction, retainer member is a non-retractable part of the retraction mechanism that uses some clamping or frictional force to keep the needle in the projecting position until that clamping or frictional force is released, correct?
A. Yes, ma'am.

Q. So there are two components to that definition, correct?
A. Well, there are more than two.
Q. Okay. Well, I want to focus on the two, in particular, retainer member has to use some clamping or frictional force to keep the needle in a projecting position, correct?
A. In the projecting position, yes.
Q. And it has -- that clamping or frictional force has to be released in retraction, correct?
A. Correct.
Q. So in order to find infringement, you have to find both that friction and holding a needle in a projecting position, and that the clamp, being a frictional force, is released upon retraction, correct?
A. You have to find that the clamping or frictional force is released from holding the needle in a projecting position.
Q. Okay. Well, you have to find the retainer member is released, correct?
A. No. No. The retainer member is a non-retractable part. That's the outer part that does not retract. That's a very key part here. The non-retractable part is the retainer member.
MS. PIROZZOLO: Can we go back to

Figure 8, please?

Q. (By Ms. Pirozzolo) So I think we just went over it, and we decided that in the Figure 8 embodiment, the retainer member -- the frictional force between the retainer member and the wall changes during retraction, because the retainer member moves, correct?

A. There's nothing wrong with that statement. Sure.

Q. Now, let's go to some basics on the 3mil Integra syringe, okay?

A. Sure.

MS. PIROZZOLO: Could you put up Defendant's Exhibit 312, No. 8?

Q. (By Ms. Pirozzolo) That is a BD 3mil Integra syringe, correct?

A. I can't verify the photograph. It certainly appears to be. I can't see the numbers, so I'm going to have to take your word for it.

Q. You can look at it on the screen, if that would be easier for you.

A. No. I'm just saying I can't see the numbers.

Q. You can't tell if that's a 3mL Integra syringe?

A. My best guess is that it is, because I have one here and it kind of looks about the same scale.

Q. Okay.
A. I just want to be thorough.
Q. All right. You have one in your hand you said?
A. I do.
Q. Okay. Can you show the jury how the needle assembly can come on and off the barrel of the Integra syringe?
A. Well, the needle assembly actually doesn't come on and off the barrel. Part of the barrel is the -- is incorporated into the needle assembly. So with that caveat and that correction, you can unthread this just like this. So you have this part of the barrel. The darker blue is the other part of the barrel where I was trying to show the thread. And then this lighter part here that kind of bling-blings here, this is the retainer member.
Q. And that's a detachable needle assembly on the Integra syringe, correct?
A. That's correct, yes.
Q. Okay. And the asserted RTI patents don't disclose a detachable needle assembly, correct?
A. Correct. It's not a limitation.
MS. PIROZZOLO: Now, I want to go to Defendant's Exhibit 312, No. 55.

Q. (By Ms. Pirozzolo) That's a picture of the Integra 3mL needle assembly, correct?
A. Well, the terminology, needle assembly, might be BD's, but that also is showing the one portion of the two-part, two-piece barrel. The dark blue part is part of the barrel.
Q. And that part has four different pieces in it, correct?
MS. PIROZZOLO: And if we could go to Defendant's Exhibit 312, No. 56.
Q. (By Ms. Pirozzolo) There's a needle, correct?
A. There is a needle, correct.
Q. It has a -- there's a spring as well, correct?
A. There's a spring as well.
Q. And I'll point these out. I think they are pretty obvious.
So here's the spring.
A. Yes.
Q. And then there is what BD calls the inner hub, correct?
A. That's BD's term, yes.
Q. And there's what BD calls the outer hub, correct?
A. That's correct.
And you can also see the white adhesive that

we have been referring to a number of times. There you can see the adhesive.

Q. Now, there's a -- the inner and outer hubs of the Integra syringe fit together with a snap lock, correct?

A. Well, it's a snap fit. People can debate for a long time about whether it's snap lock, because you can pop it out. But I agree that it snaps in place, sets against the spring, and that's where that little boing-boing effect happens.

Q. Okay. Do you agree that it's a snap lock?

A. At any given time, you can refer to something as a snap fit or a snap lock. It is not a term of art. Some people could call it snap lock. I could call it a snap lock.

The point is it goes in there and it's not friction-based.

Q. Mr. Sheehan, you gave a deposition in this case; is that right?

A. Yeah.

Q. Okay.

MS. PIROZZOLO: Dennis, could you display the video from Page 59, Lines 10 to 13 of Mr. Sheehan's deposition?

(Video playing.)

QUESTION: And how do the inner and outer hubs on the 3mL Integra fit together?

ANSWER: Oh, that's -- actually, it is a -- there's a perfect example of -- of -- of sort of a snap lock.

(End of video clip.)

Q. (By Ms. Pirozzolo) Was that your testimony, sir?

A. Yes. And -- and it's consistent with what I just said. On any given day, you can call it a snap lock or a snap fit as long as what you understand is that it's a mechanical fit and not a friction fit.

Q. So that's a mechanical hold, correct?

A. Yes.

Q. And the snap lock --

A. I'm sorry. Just to be clear, the relationship between the -- what you call the inner hub and the outer hub, that is a snap fit or a snap lock, whatever you want.

Q. Okay. So the relationship between the inner hub and outer hub is not a frictional hold, correct?

A. Correct.

Q. And the asserted RTI patents don't disclose a needle assembly with an inner and outer hub that snap together, correct?

A. That's correct.
Q. Now, the outer hub of the Integra 3mL syringe has what you call threads, correct?
A. Oh, yeah -- yes. That portion -- what you call the outer hub and what I call the second part of the barrel has threads on the outside.
MS. PIROZZOLO: And could we put up Defendant's Exhibit 312, No. 96?
Q. (By Ms. Pirozzolo) And you can see those threads in this exhibit, correct?
A. Yes, ma'am.
Q. Okay. And the outer hub attaches to the barrel by those threads, correct?
A. It is -- it is -- well, it's, generally speaking, attached. I mean, it's the threads that guide it in to begin with, sure.
Q. Okay. Because there are threads that mate with -- there are threads on the barrel that mate with the threads on the outer hub, correct?
A. Precisely.
Q. Now, earlier today, you talked about frictional forces that are present when those two pieces are put together; is that right?
A. That is correct.
Q. Okay. There's also a mechanical element to

that connection, correct?
A. There is a modest mechanical element to that connection.
Q. The threads fit together like a metal nut and a bolt screwed together, correct?
A. Generally speaking, when threads go together, like I explained earlier, if it's like a metal one, you know, it leads it in. But, eventually, when you tighten it down, you get some distortion.
On Luer threads, which these are not, you get a more distortion. These threads, although Luer-ish in nature, are a little bit more substantial. So I would expect less distortion. But it is true that you are going to, at the end of the day, have some distortion which will contribute a mechanical component as well.
Q. Mr. Sheehan, my question was, is it like a metal nut and a bolt screwed together?
A. It depends in what -- in what capacity. It's unlike it, because it's not metal. It's unlike it, because it doesn't bend the threads the way a metal thing goes.
So I'm afraid -- I'm not trying to be difficult. I want to be able to answer the question fairly.
Q. Okay. Let me just refer to your deposition.

A. Sure.

MS. PIROZZOLO: Dennis, could you put up Page 61 of Mr. Sheehan's deposition, Lines 10 to 11?

(Video playing without audio.)

Q. (By Ms. Pirozzolo) Mr. Sheehan, you were discussing the threads in the Integra 3mL syringe, and you said just the way that system works.

Was that a true statement?

A. Can I see the whole thing?

Q. Sure.

A. I don't know what the context is.

If I take your word for it that you're referring -- that I'm referring to the 3mL Integra syringe, then that is true.

So I'm -- I'm saying that you get a little bit of distortion, just like you do in metal nuts and bolts but not nearly as much.

Q. Now, the patents don't disclose threads as a frictional hold, correct?

A. The patents -- no.

Q. And you've never seen threads called a frictional hold in any textbook, correct?

A. Generally speaking, that's not how they're characterized, no. But -- okay. I just answered your question.

Q. And you've never seen threads characterized as a frictional hold in a trade journal, correct?
A. That's correct.
Q. Now, in the Integra, there's a two-piece plunger, correct?
A. Oh, it's about four pieces actually. Oh, which Integra?
Q. I'm talking about the Integra 3mL.
MS. PIROZZOLO: Let's put up Defendant's Exhibit 312, No. 86, please.
Q. (By Ms. Pirozzolo) Is that a picture of the plunger from the 3mL Integra?
A. Yes, ma'am.
MS. PIROZZOLO: Can we put up Exhibit -- Defendant's Exhibit 312, No. 62?
Q. (By Ms. Pirozzolo) Now, the plunger consists of an inner plunger rod here, correct?
A. Yes, that's BD's term for it.
Q. And an outer plunger right here, correct?
A. I don't think it's called rod. I think it's just called the outer plunger.
Q. Okay. It's the outer plunger; is that right?
A. Yes, ma'am.
Q. Okay. And the inner plunger rod has a cutter on the end of it, correct?

A. Yes, press-fit on the end of it is the cutter.
Q. Okay. And the inner plunger rod snaps into the outer plunger, correct?
A. Yes. That's a perfectly good definition there. It snaps in just much like the other parts we're talking about. That's fine. Sure.
Q. And that's a mechanical hold, correct?
A. Sure.
Q. Now, I want to focus on what happens when the needle in the 3mL Integra syringe is retracted, okay?
A. Sure.
Q. And in particular whether there's any release of any frictional force or clamping, okay?
Now, in the Integra, when the plunger is fully depressed at the end of an injection, the cutter cuts through the seal at the end of the plunger, correct?
A. I'm sorry. I was waiting for a picture. Say it again.
Q. In the Integra, when the plunger is fully depressed at the end of an injection, the cutter cuts through the seal at the end of the plunger, correct?
A. In the 3ml?
Q. Yes.
A. Yes.
Q. Okay.

MS. PIROZZOLO: And if we can put up -- I do have a picture -- Defendant's 312, No. 67.

Sorry for the delay.

Q. (By Ms. Pirozzolo) All right. Now, this shows, does it not, Mr. Sheehan, the cutter cutting through the end of the plunger seal?

A. Yes. You don't represent this to be actually something working. You just artificially set this up that you push the cutter through the -- through the front of the plunger.

Q. Yes. So that the jury can see how the -- the cutter comes right through the black part, the plunger seal at the end of the plunger.

A. Oh, sure. Absolutely, it does. Sure.

Q. And after that happens, the spring propels the needle back into the plunger, correct?

A. Well, it -- it emerges from there, and then cuts through the bridging portion releasing the needle-holder from the clamping or frictional hold.

Q. It cuts through this green piece of the inner hub, correct?

A. Well, it cuts through the bridging portion of that light piece, which you call the inner hub, which is, in fact, the retainer member and the needle-holder.

Q. Okay. Now, is your Integra 3mL that you have,

has that been retracted?
A. This one? No.
Q. Okay. Could you retract the -- could you pull it and activate the retraction mechanism?
A. Sure. Do you want me to leave the cap on or off?
Q. You can leave it on so no one gets hurt.
A. (Complies.)
Q. Okay. Now, after you've retracted the Integra 3mL syringe, there's no release of any holding force with the frictional threads, correct -- with the threads between the needle assembly and the barrel, correct?
A. No. Those are part of the non-retractable portion of the retainer.
Q. Okay. They didn't move at all during retraction, correct?
A. No.
Q. So any friction you say was present in the threads was not released, correct?
A. Whether -- it was released from holding the needle-holder, because the bridge was cut.
Q. Okay. Well, you said that the frictional forces are between the mating threads, correct?
A. Correct. I said friction is how the threads hold down and -- and clamp the retainer.

Q. Okay. And those haven't moved once you retract the syringe, correct?
A. That's correct.
Q. Now, you also talked on your direct about clamping force in the Integra 3mL syringe, correct?
A. Yes, ma'am.
Q. Okay. And you said the -- I guess -- you said the asserted patents saying the needle can be held in a projecting position by clamping force, correct?
A. I just read the Court's instruction, if that's what you're referring to.
Q. And you identified clamping in what you say is clamping in the 3mL Integra syringe, correct?
A. Oh, absolutely. Yes, ma'am.
Q. Okay. And you say that there's some play between the inner hub and the outer -- and the needle-holder, correct?
A. There is some play -- oh, I can't use that one now.
There is some play between what BD refers to as the inner hub and the outer hub. That's the names on the drawings. For me, there's some play between the retainer member, bridging portion needle-holder object, and the final part of the barrel that closes off the barrel.

You need two pieces to close off -- sorry -- to close off this barrel. And, yes, there's a little bit of play there evidencing the presence of the spring.

Q. Okay. And we have a large model of an Integra syringe.

A. Oh, I guess so.

MS. PIROZZOLO: And if I may, Your Honor.

THE COURT: Yes. Yes.

Q. (By Ms. Pirozzolo) Are you talking about this plate?

A. I'm going to cover this needle now before I continue.

Q. Let me go through. So this is a spring of the Integra syringe, correct?

A. Yeah. I'd have to see it more closely to --

THE COURT: Do want to step down?

THE WITNESS: Oh, yeah. Sure. Sorry.

THE COURT: Do you have a hand mic so you can hear everyone?

THE WITNESS: I can be pretty loud. Testing.

Q. (By Ms. Pirozzolo) This is the spring, correct?

A. That's a spring, yes.

Q. Okay. This is the needle?

A. Okay.
Q. This is the inner hub, correct?
A. Well, it certainly looks like the inner hub.
Q. It's a model. Yeah.
A. Well, it certainly looks like you've got some play in there. Because these are sectioned, they're not going to behave like the actual round objects, so -- so you could be misled.
But -- but, yeah, there's some boing-boing because this can move up and down until it's clamped.
Q. And that's what you're talking about as the play, the thing gets clamped into the barrel; is that right?
A. Yeah. I called it boing-boing.
MS. PIROZZOLO: Mr. Beck, can you help me with the barrel?
THE WITNESS: Oh, am I back?
MS. PIROZZOLO: Yes.
THE COURT: Mr. Hardin, if you like, you can move around so you can see better.
MR. HARDIN: Thank you, Your Honor.
Q. (By Ms. Pirozzolo) And just so you can see, you say the clamping occurs between the outer part of the assembly, correct? And the inner part of the barrel here (indicates)?

A. Well, remember, I'm calling this as the second part of the barrel. So what happens is --

THE COURT: Can y'all please speak up. Both the reporter and I are having trouble hearing.

THE WITNESS: I'm sorry. I'm holding the mic off.

THE COURT: I understand.

THE WITNESS: Sorry.

A. Okay. What happens is that the orangy part, as it gets threaded in by the threads in the blue part, will eventually clamp down, close the spring to its final height and push the white part, which is the retainer member, which is then connected to the bridging portion and the needle-holder, against this sloping surface on the -- the other part of the barrel.

Q. So the needle-holder is being clamped between the barrel and the orange part, correct?

A. Well, the needle-holder is connected to the bridging portion, which is connected to the retainer member, which is being clamped between the two parts of the barrel.

Q. Thank you.

Now, that clamping force that we just looked at is not between the retainer member and the wall of the barrel, correct?

A. Retainer member and the wall of the barrel? Well, sure. It's -- it's an outer surface of the barrel. I mean, it's a -- it's a -- that sloping portion. If what you say -- if what you mean to say it's not the long part of the barrel, sure, it's not. It's this canted, sloped surface where you hope to get a seal.

Q. Okay. Now, when you unscrew the needle assembly from the Integra syringe, the needle is in a projecting position, correct?

A. You mean I haven't used it yet?

Q. Yes.

A. I mean, it came assembled and I'm, for some reason, disassembling it?

Q. Yes. The needle is in a projecting position, correct?

A. No. I mean -- sure, it's sticking up, but it's not attached to a syringe, so it's kind of irrelevant. And the spring pops it back, and so it's kind of wobbling a little bit. So I'm not sure it's important.

Q. If I take off the cover of the needle --

A. Sure.

Q. -- so I have the needle setting here, correct? It's projecting now, correct?

A. Okay. Yeah.
Q. It's projecting?
A. Right.
Q. If I unscrew it from the barrel, it's still projecting, correct?
A. No. It actually dropped back.
Q. Okay. Because of the little play?
A. Yeah, the boing-boing.
Q. Okay. Now, during retraction -- the needle in the Integra 3mL, during the retraction process, the cutter slices through the inner hub, correct?
A. The cutter slices through the bridging portion between the needle-holder and the retainer member that being what BD describes in their engineering drawings as the inner hub.
Q. Okay. And when the inner hub is -- when the portion you just described is cut, the retainer ring is still there, correct?
A. The retainer member? Is that what you mean?
Q. Yes.
A. You said retainer ring.
Q. Yes.
A. Yes, it's still there.
Q. And, in fact, it hasn't moved at all, correct?
A. Hasn't moved at all.

Q. Okay. So I want to look at one of your animations.

MS. PIROZZOLO: Could we put up --

THE WITNESS: Sure.

MS. PIROZZOLO: The animation?

(Animation playing.)

Q. (By Ms. Pirozzolo) Now, this -- this animation you prepared to show the 3mL Integra, correct?

A. Yes, ma'am.

Q. Okay. And the outer hub is in green, correct?

A. What I call -- what is -- what is defined -- the far end of the barrel.

Q. Okay. And this inner portion is the needle-holder, correct?

A. Well, the middle part of that is the needle-holder.

Q. Okay. And this portion here (indicates) is what you call the retainer member, correct?

A. Yes. That's part of the non-retractable portion.

Q. Okay. Now, when retraction occurs --

MS. PIROZZOLO: Why don't we run the clip.

(Animation playing.)

Q. (By Ms. Pirozzolo) So the portion you call the

retainer member is setting in the same place, correct?
A. Right. It's the non-retractable portion.
Q. Okay. But the clamping force that you talked about that's holding the retainer member between the canted part of the barrel and the green portion of the syringe, that hasn't moved at all, correct?
A. No, that hasn't changed. No.
Q. So that clamping force is exactly the same as it was before retraction, correct?
A. The total amount of the force and where it's clamping, sure. But, of course, it's been disconnected from the needle-holder.
Q. The retainer member hasn't moved at all, correct?
A. That's correct.
Q. Now, let's look at Claim 10 of the '077 patent.
MS. PIROZZOLO: Actually, could we go back to the -- to the animation? I just have one more question.
Q. (By Ms. Pirozzolo) Now, you said the retainer member hasn't moved at all, correct?
A. Yeah, I agreed with you, sure.
Q. Now, I think we agreed that part of the Court's claim construction required that the clamping or

frictional force be released, correct?

A. Yeah. Let's look at it. Do you have the tab?

MS. PIROZZOLO: We can put the definition up.

I believe it's right at the back of your binder.

THE COURT: Tab 4 of the jury notebook, I believe.

THE WITNESS: Thank you. I would rather look at the Court.

Q. Okay. So the clamping --

MS. PIROZZOLO: Why don't we go back to the animation while --

(Animation playing.)

Q. (By Ms. Pirozzolo) So the clamping -- you agree that the clamping or frictional force has to be released, correct?

A. I agree with the Court's construction that a non -- that a retainer member is a non-retractable part of the retraction mechanism. So that's all that stuff that doesn't retract.

That uses some clamping or frictional force to keep the needle in the projecting position. And that's what it's doing before you cut it until that clamping or frictional force is released. And it is released by virtue of cutting, because now it is no longer -- the needle can no longer be held in the projecting position. And that's exactly what just happened.

Q. But the clamping or frictional force holding the retainer member hasn't been released, correct?

A. It hasn't disappeared, but it has been released from the needle-holder.

Q. But the clamping between the canted part of the barrel and the green portion of the syringe is still setting there, correct?

A. Yeah. Once again, it has not disappeared.

Q. All right. Let's look at Claim 10 of the '077 patent.

Now, we -- Claim 10 of the '077 patent requires a vent in fluid communication with a retraction cavity to allow airflow from the retraction cavity, correct?

A. I'll take your word for it. It looks like it. Right.

Q. We talked about the plunger in the Integra earlier, correct?

A. We did, yeah. Sure.

Q. Okay. And the Integra 3mL syringe has holes in the inner plunger rod, right?

A. Yes, two, one on each side.
Q. And you've given the opinion that those holes are vents, correct?
A. I have.
Q. According to the claim, the vent is to allow airflow from the retraction cavity, correct?
A. That's correct.
Q. And you agree that in the Integra 3mL syringe, the inner plunger rod fits into the outer plunger rod, correct?
A. I'm sorry. I had to pull up the Court's construction of vent.
Q. Uh-huh.
A. So could you repeat the question?
Q. Would the plunger in the Integra syringe, the inner rod -- the inner plunger fits into the outer plunger, right?
A. Sure. It fits inside of it, but it's got space.
Q. Okay. And in that configuration, the holes in the inner plunger rod are obscured, correct?
A. There -- may be visually obscured, but they're certainly not blocked.
Q. But they're obscured by the outer plunger rod, correct?

A. In fairness to me, when you say obscured, do you mean blocked or cannot be seen?

Q. Well, let's look at what you said in your deposition, Mr. Sheehan.

And in particular on Page 18 -- 118, Lines 15 through 19, you were asked: And those holes are covered by the outer plunger rod when the plunger is assembled; is that correct?

And you said: They are obscured.

Was that correct?

A. Well, yeah. That little snippet is correct, meaning you can't see them. You're -- you're -- I mean -- well, you can actually see them, if you look carefully, but they are obscured, because they're -- they're just hidden, is all.

Q. You never did any testing, Mr. Sheehan, to see if air passes out of the holes in the Integra inner plunger rod and out of the retraction cavity, correct?

A. That's correct.

Q. You agree that Claim 10 of the '077 patent doesn't refer to splatter, correct?

A. Oh, the claim doesn't, no. The specification discusses it, sure.

Q. But the claim does not refer to splatter, correct?

A. That's correct.
Q. Okay. And you didn't do any test to determine whether the holes in the Integra 3mL syringe reduce splatter out of the nose of this syringe, correct?
A. That's correct.
Q. Now, Mr. Shaw's patent -- and I want to go to Column 15, Lines 47 through 52 -- says that one advantage of the vent design is that they're designed for ease of molding, since they can -- I think it means be formed in the mold that makes the plunger without using separate pins to form an opening, correct?
A. Yes. He's addressing what people -- folks know who do molding, about how you can get some vent paths without having to use core pins or slides. These are things that come in from the side. Most molds open like this (indicates), and you don't want to have slides that makes it more complicated. So this is just Mr. Shaw pointing out, hey, here's how you can mold these.
Q. You don't have to use core pins, correct?
A. No. No. You -- you don't have to use core pins, although you have to, in this case, put a cap in the back. But of course not.
Q. You understand that the holes in the Integra -- the plunger of the Integra syringe are core

pin holes, correct?
A. You know, it's my understanding that -- now, are we in the 3ml or the 1ml?
Q. The 3ml.
A. Okay. Well, if we're still in the 3ml, it is my understanding that it's been alleged that that's what they're -- what they're there for. And I have no problem with that.
Sure -- they're not necessary. I mean, you can mold that plunger without having those core pins there. It's been alleged that those core pins are there to stable -- those holes are there to stabilize the core pin, but they're not necessary.
So I believe they're there to be vents.
Q. You agree that they're core -- they're made by core pins, correct?
A. Well, they're not core pins; they're actually made by slides. The core pin is the large pin that goes down the middle. That's the core pin. It goes down the core. And those are two little slides that come in from the slide.
Q. Now, I want to turn to Page 119 of your deposition, please.
MR. HARDIN: Your Honor, unless there's a question, there's no reason to look at the deposition.

THE COURT: Do you have a question?
MS. PIROZZOLO: I will.
THE COURT: Very well. We'll have a question.
Q. (By Ms. Pirozzolo) Mr. Sheehan, at -- your deposition was you giving testimony under oath, correct?
A. Yes, sure.
Q. Just like here -- just like here in court here today?
A. Yes. Always my intention. That's -- I tell the truth.
Q. Okay. Now, let's look at Page 119 of your deposition, and in particular, Lines 20 through 24. And you were asked: Why are the holes in the Integra plunger; do you know?
And you stated: Well, I am informed that BD asserts that they are there because they were used to support as core pin supports, which was entirely possible.
A. Sure.
Q. Was that a true statement?
A. Yeah, absolutely. It's consistent with what I just said.
Q. Now, let's turn to the Integra 1mL syringe. There are three claims of the '733 patent being asserted

against the 1ml syringe, correct?
A. Oh, I'm sorry. I was getting my 1ml out. There are how many claims?
Q. There are -- actually, there are two claims, I think, from the '733 patent being asserted against the Integra 1mL syringe, correct?
A. That's correct.
Q. Okay. And all of those claims require that the retraction mechanism be in the nose of the syringe, correct?
A. Oh, gosh, I'd love to look at the claims to be sure.
Q. Okay.
MS. PIROZZOLO: Well, let's put up the claim construction order, Page 28.
A. Oh.
MS. PIROZZOLO: And in particular, the definition of nose.
Q. (By Ms. Pirozzolo) The nose is the portion of the syringe at the injection end that has a reduced diameter relative to the barrel, correct?
A. I'm sorry. I really don't mean to be rude, but you asked me a question, and I said could I see the claim.
Q. Okay.

A. You asked me whether or not nose appeared in whatever claims there were, and I just wanted to see the claims to verify that.

Q. Okay.

A. If you are willing to aver that they're there, I'll take your word for it, but in fairness to the folks here, I wanted to look at it and be sure.

Q. Okay. Do you need to look at the claims of those patents to know whether or not the retraction mechanism has to be in the nose?

A. Take 30 seconds.

Q. Okay. Go. Please go ahead.

THE COURT: While he's taking that 30 seconds, how much more cross-examination do you anticipate?

MS. PIROZZOLO: I think I have at least a half an hour, Your Honor.

THE COURT: Counsel, the jury would probably like to leave at 5:00; is that correct?

JUROR: Now.

[Laughter]

THE COURT: Why don't we go about another -- what was that statement? Now?

Why don't we go about another 10 minutes or at a convenient breaking point close by, and we'll

let the jury go for the day.
MS. PIROZZOLO: I'll finish up with the nose, and we can stop.
A. Are you in the '733?
Q. (By Ms. Pirozzolo) Yes.
A. Okey-doke.
Q. And just to be clear, I'm asking you about the claims that you were discussing on your direct testimony.
A. Right, which is '733, Claims 1 and 24.
Q. Right.
A. Okay. 1 and 24. Yes.
Q. Okay. And those claims require that the retraction mechanism be in the nose of the syringe, correct?
A. Yes, ma'am.
Q. Okay. And the Court defined nose as the portion of the syringe at the injection end that has a reduced diameter relative to the barrel, correct?
A. Yes, ma'am.
Q. Okay. And the Court also defined transition zone as the portion of the syringe located between the barrel and the nose, correct?
A. Yes, ma'am.
MS. PIROZZOLO: Now I want to put up

Defendant's Exhibit 311, No. 33, which is a picture of the 1ml Integra syringe.

Whoop, that doesn't look like the right picture. Perhaps we can go to Defendant's Exhibit 183.

Q. (By Ms. Pirozzolo) I guess now we have a picture. Is that a picture, Mr. Sheehan, of the Integra 1mL syringe?

A. Looks like one of them.

Q. Now, you have defined nose as starting where I have my pointer and going forward towards the needle, correct?

A. In fairness to me and everyone present, when you say there, you're pointing to some -- a feature on the outside, and we have to look at the inside.

Q. Okay. Well, let me -- let me be -- try to -- I think this is fairly clear.

You know BD's expert, Dr. Sibbitt, says the portion right at the front of the syringe, the narrowest portion of the syringe, is the nose, correct?

A. I believe I read that, sure.

Q. Okay. And you don't agree with that, correct?

A. No, I don't.

Q. Okay. You think this -- some portion of this part of the syringe is also the nose of the syringe, correct?

A. I think the nose is exactly where I described it before, and I'll do it again, if you'd like.
Q. Okay. Well, let's go to the animation that you prepared to show the nose. This is your animation, correct?
A. So far, it looks like it, yes.
Q. And you're saying that the nose includes this entire part of the syringe in green (indicating), correct?
A. The green part, correct.
Q. Okay. And the transition zone is this thin line right here (indicates); is that right?
A. Well, it's not a line. It has some width. And that's the transition zone between the barrel and the nose, according to the Court's claim construction.
Q. Okay. And you say the transition zone is an area that's approximately 5 to 6,000ths of an inch long, correct?
A. In this particular 1ml syringe, yes. It's about that long.
Q. Okay. Now, if Dr. Sibbitt's right and the nose is just the front narrowest portion of the syringe, then you would agree that the retraction mechanism is not in that portion of the syringe, correct?
A. Oh, sure. No problem.

Q. Okay. You have to have the nose go all the way back to where you have it in order to be able to offer the opinion that the retraction mechanism is in the nose of the syringe, correct?

A. I don't have to have it back there. That's where it is. That's the definition. The transition zone follows from the barrel. Sorry.

Q. But if you said this part where the syringe narrows was the transition zone, then the retraction mechanism would not be in the nose, correct?

A. Yes, that's correct.

MS. PIROZZOLO: Okay. I have no -- we can stop here, if that's --

THE COURT: This is a convenient stopping point?

Ladies and Gentlemen of the Jury, we'll allow you to go for the day. Just recall my previous instructions not to discuss this case, not to investigate this case in any fashion.

And we'll see you tomorrow morning. Try to start promptly at 9:00 a.m. Have a nice evening.

COURT SECURITY OFFICER: All rise.

(Jury out.)

THE COURT: Have a seat, everyone.

Mr. Bowles, I told you Friday afternoon

that sounded awfully ambitious, what you had in mind for the day.

MR. BOWLES: Well, you know, that wouldn't be the first time, Your Honor.

THE COURT: So we have 30 minutes more of cross and then some redirect, and then what can we expect tomorrow?

MR. BOWLES: Tomorrow, after --

THE COURT: We'll cut in half whatever you say.

MR. BOWLES: -- after Mr. Sheehan -- after Mr. Sheehan, we're going to have some videos of engineers, and we'd like --

THE COURT: About how long will the deposition cuts last?

MR. BOWLES: Half an hour total. And we would like a minute or two just to introduce the engineers in part of our transition.

Then after that, we'll have Mr. Shaw.

THE COURT: Oh, the introduction is part of your 12 and a half hours.

MR. BOWLES: Oh, okay, whatever the Court says.

And then we'll have --

THE COURT: You mean naming the witness

or trying to sort of tell them what their anticipated testimony is going to be? I don't know if I quite understand what you're saying.

MR. BOWLES: Well, just to explain to the jury who the people are that are going to be testifying.

THE COURT: I guess, in fairness, that would come from your 30 minutes.

MR. BOWLES: Thank you.

And then we will have Mr. Shaw. Then we will have about 35 minutes of three BD witnesses by deposition. Then we'll have Mr. Bratic.

And then we have asked -- we intend to call Mr. Kozy as our last witness, adverse. And he is the corporate representative of BD, and then we're going to rest.

MR. CARROLL: And we'll read some stipulations.

MR. BOWLES: And we will read some stipulations.

THE COURT: I'm guessing we won't do all this tomorrow, but --

MR. BOWLES: We will do our best.

THE COURT: -- anyway, we'll see.

Now, where are the parties on the instructions that you were trying to agree upon? I just wanted to know where we are and when we're going to need them.

MR. DAWSON: Your Honor, we have agreed on three of them, I believe, but the fourth we need to --

THE COURT: We're still --

MR. DAWSON: -- visit with Mr. Hardin.

THE COURT: We're still tweaking on the fourth.

Which three have we agreed upon?

MR. HARDIN: Well, Your Honor, I believe we've agreed on the one that relates to the specific document, Exhibit 13, and obviously, that one, we think, ought to be used if and when Exhibit 13 is used.

THE COURT: Is that the letter that received a lot of people --

MR. HARDIN: Yes, that is the letter, yes.

THE COURT: -- received, the 408 --

MR. HARDIN: I've got two copies.

THE COURT: Do you have a -- do we have a copy of those, Counselor?

MR. DAWSON: We have submitted to you the language on the three that we've agreed to, and with the Court's permission, we'd like to speak with RTI tonight and see if we can come up with some language on the fourth, and if so, we'll submit it in the morning.

THE COURT: What do the parties suggest? As those may be read, then later include them in the jury notebook or --

MR. DAWSON: Our position is, Judge, that these ought not to be read until the conclusion of the case and that we don't need to read it every time there's a specific objection.

It's our position the Court will be instructing the jury at the conclusion of the case with all of your instructions, and to the extent that any of these are appropriate, we believe would be appropriate at the conclusion of the case.

MR. HARDIN: And we think the exact opposite, Your Honor.

THE COURT: And that's -- the exact opposite is normally my practice.

MR. HARDIN: We think they ought to be in the --

MR. DAWSON: I probably should have known that before I read that. And we don't think -- we don't think they --

THE COURT: I think to do it otherwise, the jury is not going to know what you're instructing them on.

So it's been my practice -- and the parties are going to have to request the instruction, but I'm going to give it prior to that testimony or in some fashion when the testimony is being given or the exhibit's being referred to. I think it means more to the jury at that stage.

MR. HARDIN: And as I know we're trying to be economical in time, could I suggest that we give these -- the parties agree on some short caption for this, so that when we ask the Court for the instructions, you can --

THE COURT: Why don't we just number them?

MR. HARDIN: That will be fine. That will be fine.

THE COURT: That's all the caption we need.

MR. HARDIN: That's fine. That's fine. I've got 1, 2, 3, 4 on mine already.

THE COURT: Otherwise, they -- as reasonable as you gentlemen are, you'll never agree upon the caption.

So 1, 2, 3, and 4.

MR. HARDIN: We'll make sure the Court

understands what we think about 1, 2, 3, and 4, and we'll try to work out ---

THE COURT: Surely, you can agree upon that.

Anything else, housekeeping matters?

MR. DAWSON: We will have our stipulation of withdrawing defenses for the Court first thing in the morning before we start.

THE COURT: Just so we have that somewhere in the record. I want --

MR. DAWSON: We've had somebody draft it. I just haven't had a chance to look at it.

THE COURT: In the event the Federal Circuit takes a look at this, we want them to know what took place.

Anything else?

Very well. We'll try to -- my staff and I will try to be promptly here at 8:30. So if you have any -- I'm not encouraging any problems overnight, but we'll be here at 8:30.

See everyone tomorrow.

COURT SECURITY OFFICER: All rise.

(Court adjourned.)

* * * *

CERTIFICATION

I HEREBY CERTIFY that the foregoing is a true and correct transcript from the stenographic notes of the proceedings in the above-entitled matter to the best of my ability.

/s/________________________ ____________________
SUSAN SIMMONS, CSR Date
Official Court Reporter
State of Texas No.: 267
Expiration Date: 12/31/10

/s/____________________ _________________
JUDITH WERLINGER, CSR Date
Deputy Official Court Reporter
State of Texas No.: 731
Expiration Date: 12/31/10